


**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐

<b>APPLICATION FOR PERMIT TO DRILL</b>				<b>1. WELL NAME and NUMBER</b> NBU 921-18P		
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES		
<b>4. TYPE OF WELL</b> Gas Well Coalbed Methane Well: NO				<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES		
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.				<b>7. OPERATOR PHONE</b> 720 929-6587		
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217				<b>9. OPERATOR E-MAIL</b> mary.mondragon@anadarko.com		
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UTU 0575		<b>11. MINERAL OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>		
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>		
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b> Ute Tribe		<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>		<b>19. SLANT</b> VERTICAL <input checked="" type="checkbox"/> DIRECTIONAL <input type="checkbox"/> HORIZONTAL <input type="checkbox"/>		
<b>20. LOCATION OF WELL</b>	<b>FOOTAGES</b>	<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>
<b>LOCATION AT SURFACE</b>	1080 FSL 197 FEL	SESE	18	9.0 S	21.0 E	S
<b>Top of Uppermost Producing Zone</b>	1080 FSL 197 FEL	SESE	18	9.0 S	21.0 E	S
<b>At Total Depth</b>	1080 FSL 197 FEL	SESE	18	9.0 S	21.0 E	S
<b>21. COUNTY</b> UINTAH		<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 197		<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 1600		
		<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 1600		<b>26. PROPOSED DEPTH</b> MD: 10454 TVD: 10454		
<b>27. ELEVATION - GROUND LEVEL</b> 4865		<b>28. BOND NUMBER</b>		<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496		

**ATTACHMENTS****VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

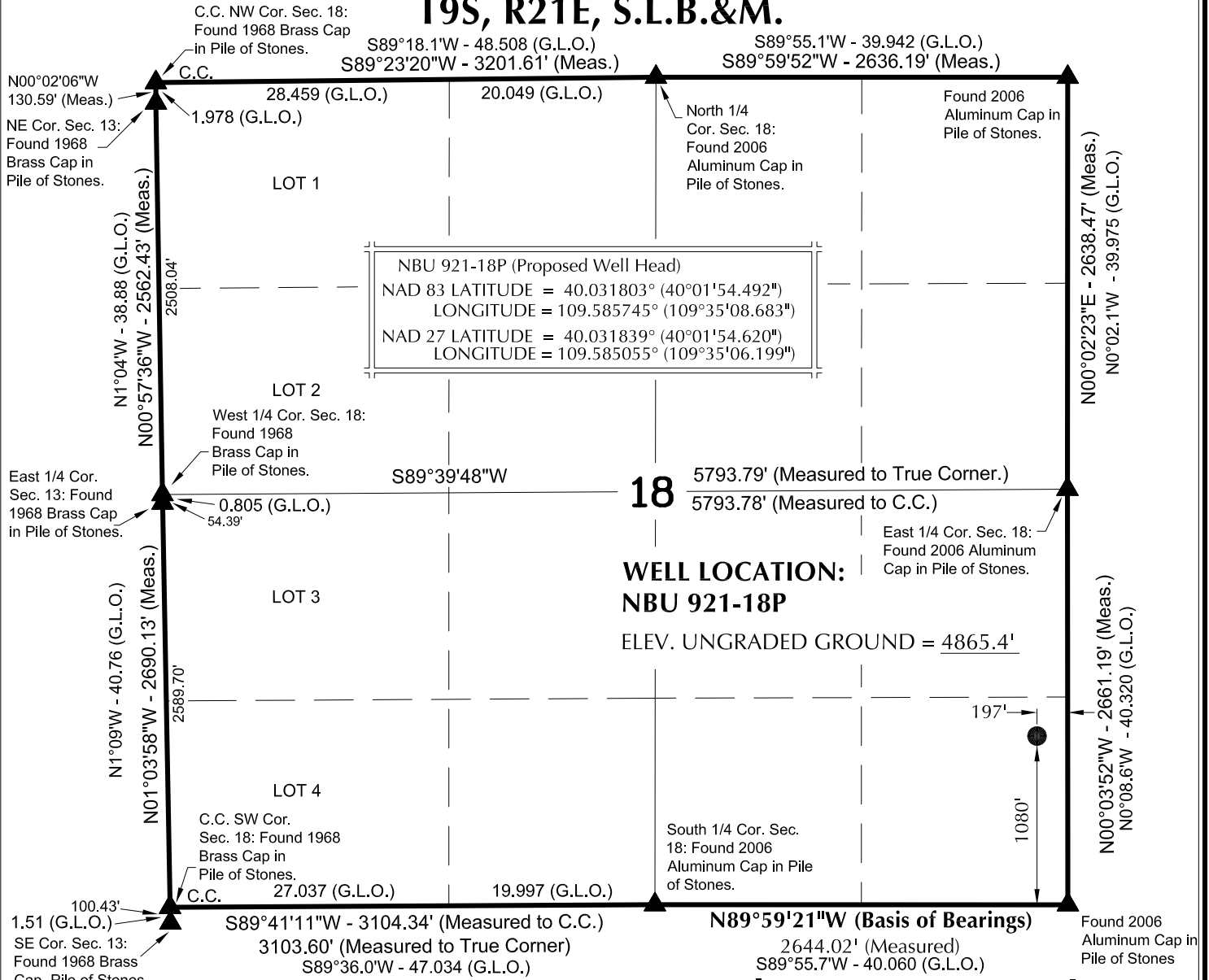
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP
<b>NAME</b> Danielle Piernot	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b>	<b>DATE</b> 09/02/2009
<b>PHONE</b> 720 929-6156	<b>EMAIL</b> danielle.piernot@anadarko.com
<b>API NUMBER ASSIGNED</b> 43047507030000	<b>APPROVAL</b>  Permit Manager

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	7.875	4.5	0	10454		
Pipe	Grade	Length	Weight			
	Grade HCP-110 LT&C	854	11.6			
	Grade I-80 Buttress	9600	11.6			



Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	12.25	9.625	0	2750		
Pipe	Grade	Length	Weight			
	Grade J-55 LT&C	2750	36.0			

# T9S, R21E, S.L.B.&M.



## NOTES:

- ▲ = Section Corners Located
- Well footages are measured at right angles to the Section Lines.
- G.L.O. distances are shown in feet or chains.  
1 chain = 66 feet.
- Bearings are based on Global Positioning Satellite observations.
- Basis of elevation is Tri-Sta "Two Water" located in the NW  $\frac{1}{4}$  of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.



## SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR  
 REGISTRATION NO. 362251  
 STATE OF UTAH

**Kerr-McGee Oil & Gas Onshore, LP**  
 1099 18th Street - Denver, Colorado 80202

**WELL PAD - NBU 921-18P**

**NBU 921-18P**  
**WELL PLAT**  
**1080' FSL, 197' FEL**  
**SE  $\frac{1}{4}$  SE  $\frac{1}{4}$  OF SECTION 18, T9S, R21E,**  
**S.L.B.&M., UTAH COUNTY, UTAH.**

**609**  
**CONSULTING, LLC**  
 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

**TIMBERLINE**

(435) 789-1365

**ENGINEERING & LAND SURVEYING, INC.**  
 209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 04-15-09	SURVEYED BY: B.J.S.	SHEET NO: <b>1</b>
DATE DRAWN: 04-17-09	DRAWN BY: K.K.O.	1 OF 9
SCALE: 1" = 1000'	Date Last Revised:	

**NBU 921-18P**

Surface: 1,080' FSL 197' FEL (SE/4SE/4)  
Sec. 18 T9S R21E

Uintah, Utah  
Mineral Lease: UTU 0575

**ONSHORE ORDER NO. 1**

***DRILLING PROGRAM***

1. – 2. **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 – Surface	
Green River	1,765'	
Birds Nest	2,034'	Water
Mahogany	2,547'	Water
Wasatch	5,150'	Gas
Mesaverde	8,238'	Gas
MVU2	9,206'	Gas
MVL1	9,763'	Gas
TD	10,454'	

3. **Pressure Control Equipment** (Schematic Attached)

*Please refer to the attached Drilling Program.*

4. **Proposed Casing & Cementing Program:**

*Please refer to the attached Drilling Program.*

5. **Drilling Fluids Program:**

*Please refer to the attached Drilling Program.*

6. **Evaluation Program:**

*Please refer to the attached Drilling Program.*

**7. Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 10,454' TD, approximately equals 6,513 psi (calculated at 0.62 psi/foot).

Maximum anticipated surface pressure equals approximately 4,213 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

**8. Anticipated Starting Dates:**

*Drilling is planned to commence immediately upon approval of this application.*

**9. Variances:**

*Please refer to the attached Drilling Program.*

*Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

***Background***

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*

*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found*

*competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.*

*The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

*KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.*

#### ***Variance for BOPE Requirements***

*The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.*

#### ***Variance for Mud Material Requirements***

*Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.*

#### ***Variance for Special Drilling Operation (surface equipment placement) Requirements***

*Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.*

*Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.*

*Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see*

*attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*

*Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.*

***Variance for FIT Requirements***

*KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). The air rig operation utilizes a 5M BOPE when drilling. This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.*

***Conclusion***

*The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.*

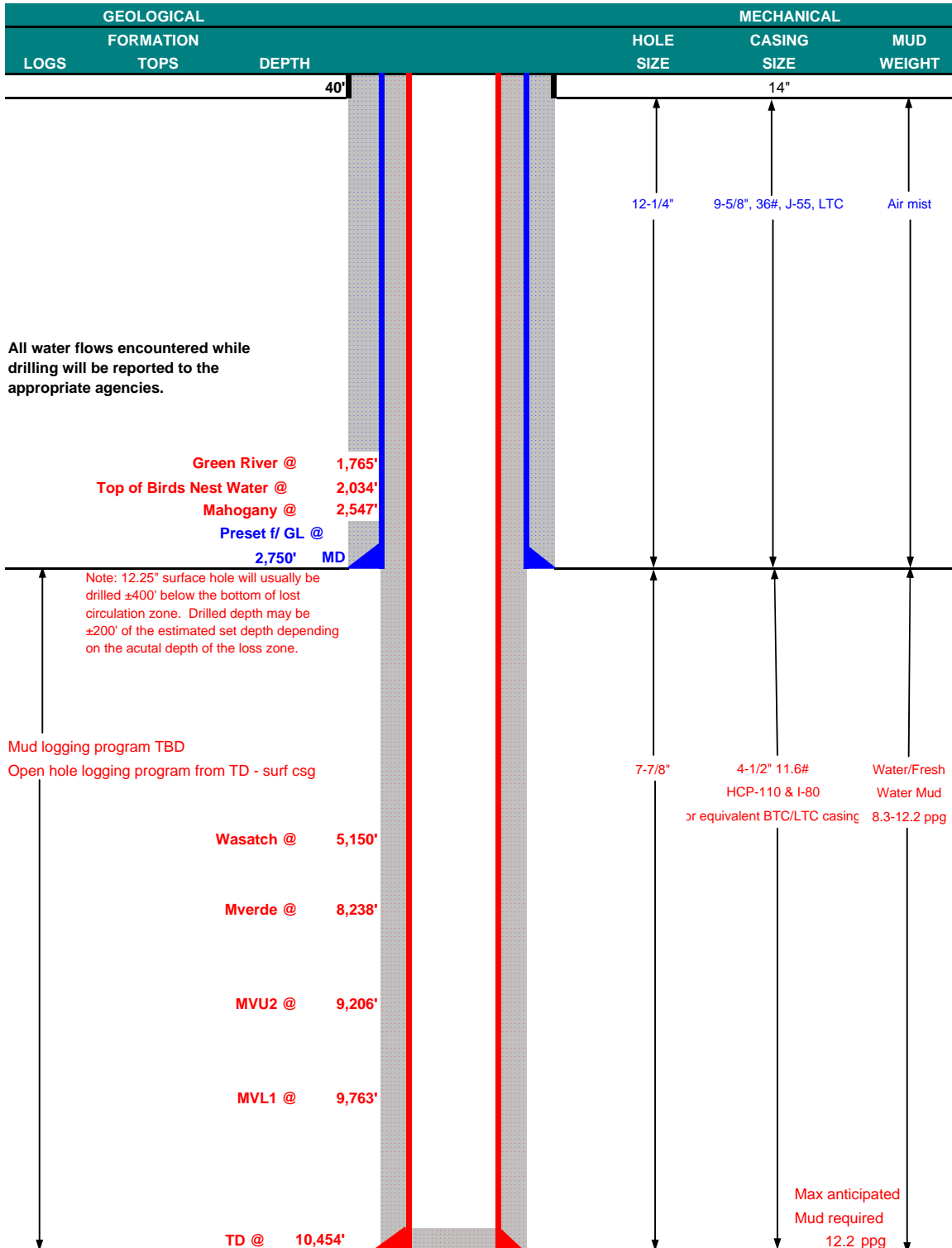
**10. Other Information:**

*Please refer to the attached Drilling Program.*



## KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	August 25, 2009		
WELL NAME	NBU 921-18P					TD	10,454' MD/TVD		
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION	4,862'	
SURFACE LOCATION	SE/4 SE/4	1,080' FSL	197' FEL	Sec 18	T 9S	R 21E	BHL	Straight Hole	
	Latitude: 40.031803		Longitude: -109.585745		NAD 83				
OBJECTIVE ZONE(S)	Wasatch/Mesaverde								
ADDITIONAL INFO	Regulatory Agencies: BLM (MINERALS), Ute Tribe (SURFACE), UDOGM, Tri-County Health Dept.								





## KERR-McGEE OIL & GAS ONSHORE LP

### DRILLING PROGRAM

#### CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3,520	2,020	453,000
SURFACE	9-5/8"	0 to 2750	36.00	J-55	LTC	0.81*	1.57	4.58
						7,780	6,350	278,000
PRODUCTION	4-1/2"	0 to 9600	11.60	I-80	BTC	1.80	1.04	2.82
						10,690	8,650	279,000
		9600 to 10454	11.60	HCP-110	LTC	2.47	1.30	34.62

\*Burst on surface casing is controlled by fracture gradient as shoe with gas gradient above.

D.F. = 2.03

1) Max Anticipated Surf. Press.(MASP) (Surf Csg) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac grad x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 12.2 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MASP 4,213 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 12.2 ppg)

0.62 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MABHP 6,513 psi**

#### CEMENT PROGRAM

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE LEAD	500'	Premium cmt + 2% CaCl	215	60%	15.60	1.18
Option 1		+ 0.25 pps flocele				
TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	380	0%	15.60	1.18
		+ 2% CaCl + 0.25 pps flocele				
		Premium cmt + 2% CaCl				
SURFACE Option 2	NOTE: If well will circulate water to surface, option 2 will be utilized					
LEAD	2,250'	Prem cmt + 16% Gel + 10 pps gilsonite	250	35%	11.00	3.82
		+ 0.25 pps Flocele + 3% salt BWOC				
TAIL	500	Premium cmt + 2% CaCl	180	35%	15.60	1.18
		+ 0.25 pps flocele				
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION LEAD	4,644'	Premium Lite II + 0.25 pps celloflake +	450	40%	11.00	3.38
		5 pps gilsonite + 10% gel '+' 1% Retarder				
TAIL	5,810'	50/50 Poz/G + 10% salt + 2% gel	1420	40%	14.30	1.31
		+ 0.1% R-3				

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

#### FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe.
PRODUCTION	Float shoe, 1 jt, float collar. Centralize first 3 joints & every third joint for a total of 15 bow spring centralizers.

#### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Drop Totco surveys every 2000'. Maximum allowable hole angle is 5 degrees.

Most rigs have PVT Systems for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

John Huycke / Emile Goodwin

DATE:

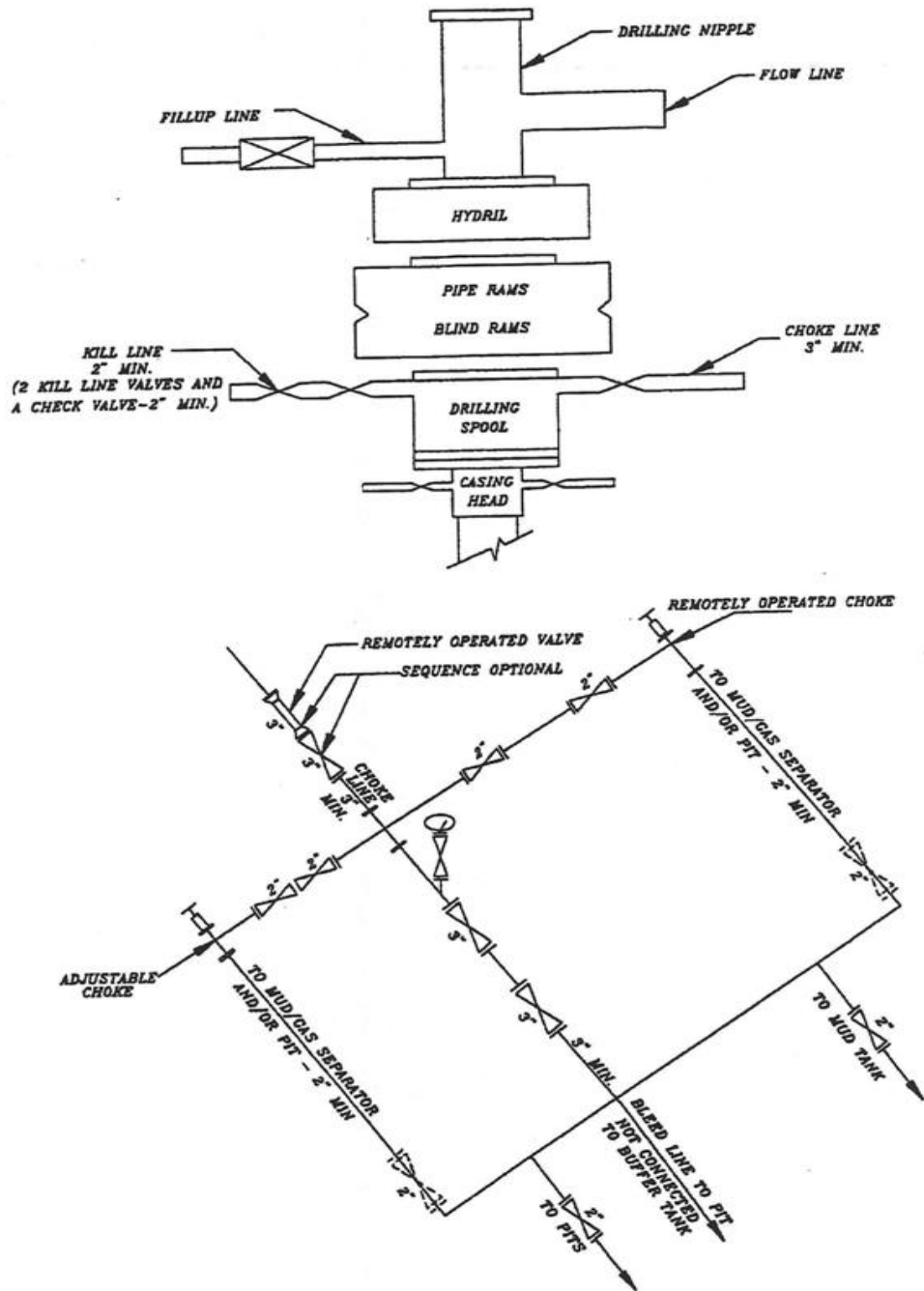
DRILLING SUPERINTENDENT:

John Merkel / Lovel Young

DATE:

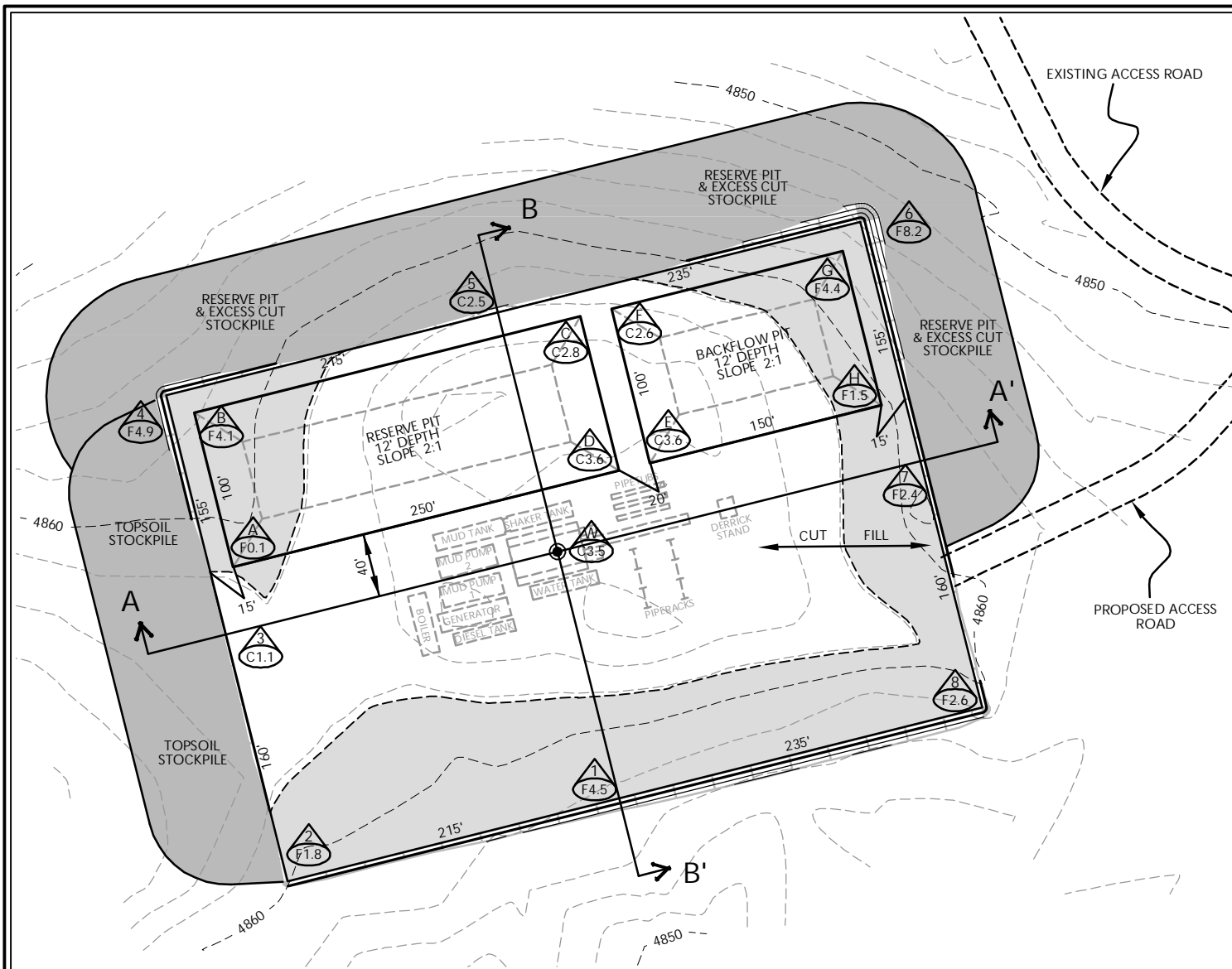


# EXHIBIT A NBU 921-18P



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

'APIWellNo:43047507030000'



#### WELL PAD LEGEND

- WELL LOCATION
- - - EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)

#### WELL PAD NBU 921-18P QUANTITIES

EXISTING GRADE @ LOC. STAKE = 4,865.4'  
FINISHED GRADE ELEVATION = 4861.9'

CUT SLOPES = 1.5:1  
FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 7,042 C.Y.  
TOTAL FILL FOR WELL PAD = 6,329 C.Y.  
TOPSOIL @ 6" DEPTH = 2,761 C.Y.  
EXCESS MATERIAL = 713 C.Y.  
TOTAL PAD DISTURBANCE = 3.42 ACRES  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00  
RESERVE PIT CAPACITY (2' OF FREEBOARD)  
+/- 28,730 BARRELS  
RESERVE PIT VOLUME  
+/- 7,720 CY  
BACKFLOW PIT CAPACITY (2' OF FREEBOARD)  
+/- 15,900 BARRELS  
BACKFLOW PIT VOLUME  
+/- 4,350 CY

Kerr-McGee Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-18P

WELL PAD - LOCATION LAYOUT

NBU 921-18P

1080' FSL, 197' FEL

SE1/4 SE1/4 OF SECTION 18, T9S, R21E

S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

Scale: 1"=100' Date: 4/24/09

REVISED:

SHEET NO:

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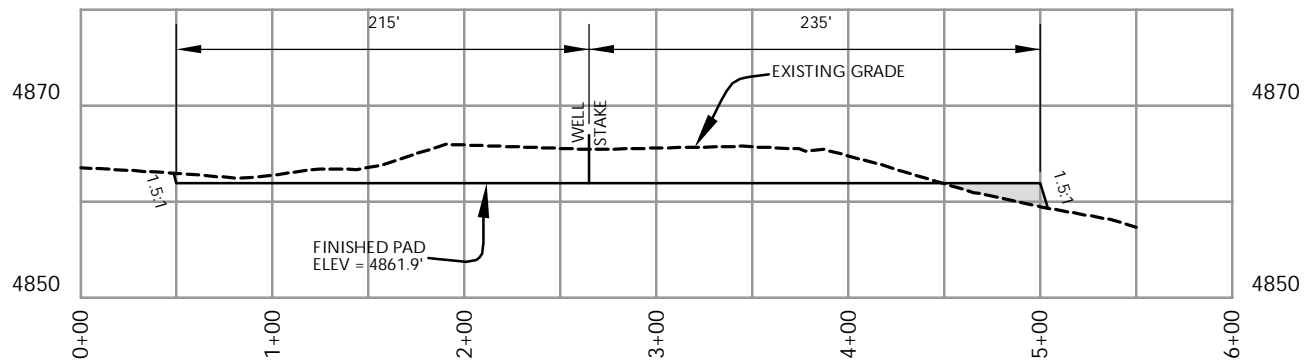
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**TIMBERLINE**  
ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078

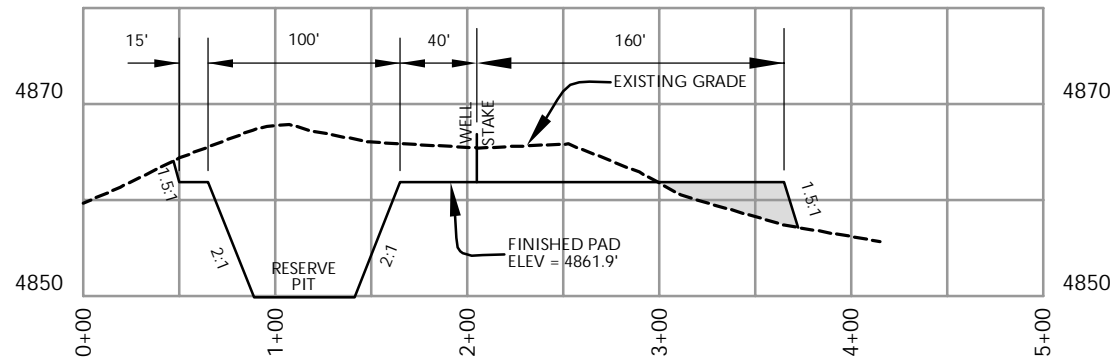
(435) 789-1365



HORIZONTAL 0 50 100 1" = 100'  
2' CONTOURS



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

Kerr-McGee Oil & Gas Onshore, LP  
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-18P

WELL PAD - CROSS SECTIONS  
NBU 921-18P

1080' FSL, 197' FEL  
SE1/4 SE1/4 OF SECTION 18, T9S, R21E  
S.L.B.&M., UTAH COUNTY, UTAH



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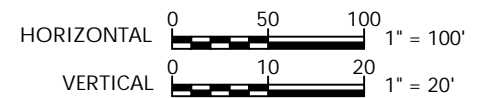
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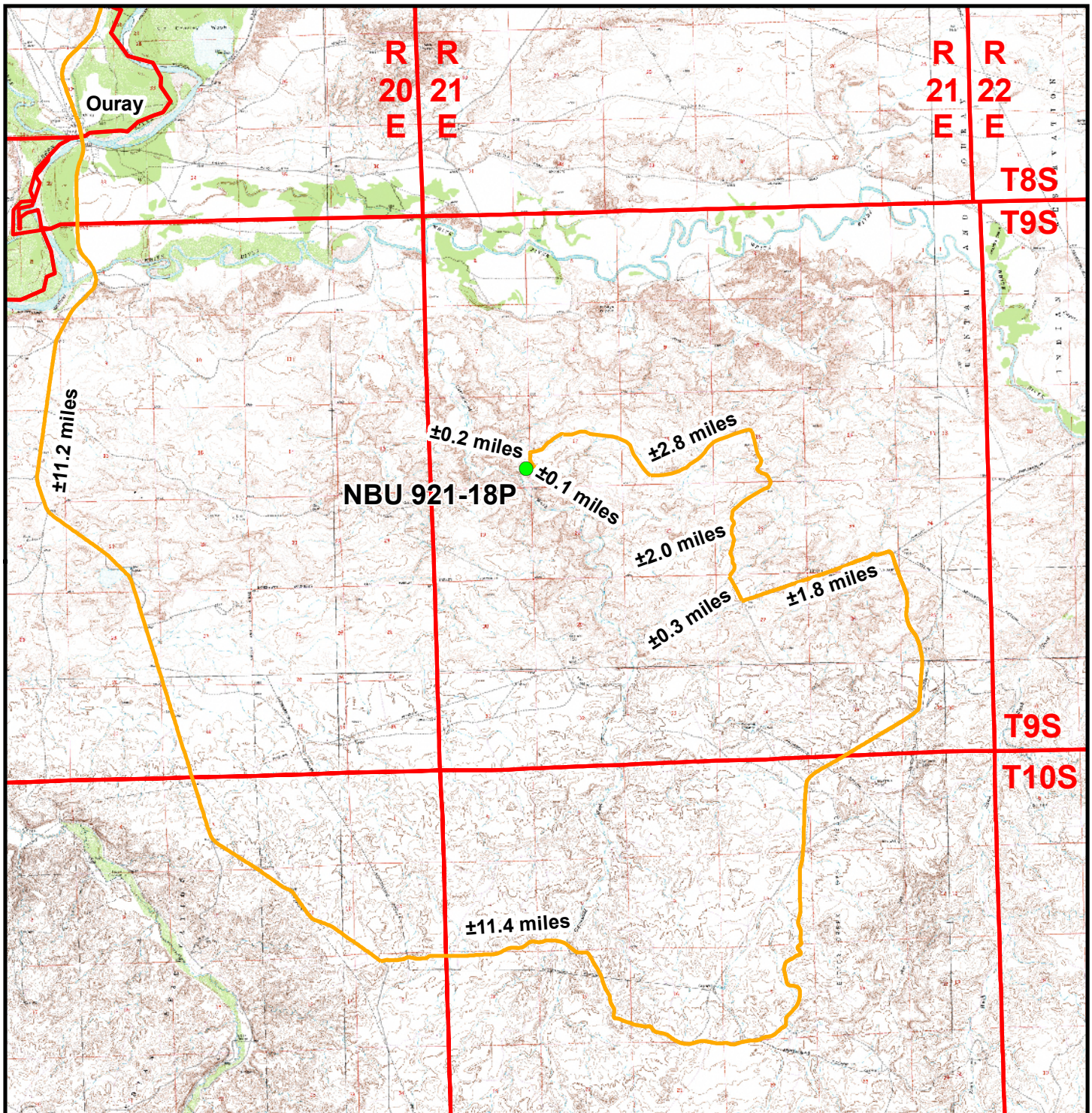
3 OF 9

REVISED:



**TIMBERLINE** (435) 789-1365  
**ENGINEERING & LAND SURVEYING, INC.**  
209 NORTH 300 WEST - VERNAL, UTAH 84078





### Legend

- Proposed NBU 921-18P Well Location
- Access Route - Proposed

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**Well Pad - NBU 921-18P**

**NBU 921-18P**

**Topo A**

**1080' FSL, 197' FEL**

**SE¼ SE¼, Section 18, T9S, R21E**

**S.L.B.&M., Uintah County, Utah**



**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



Scale: 1:100,000

NAD83 USP Central

Sheet No:

Drawn: JELO

Date: 20 April 2009

Revised:

Date:

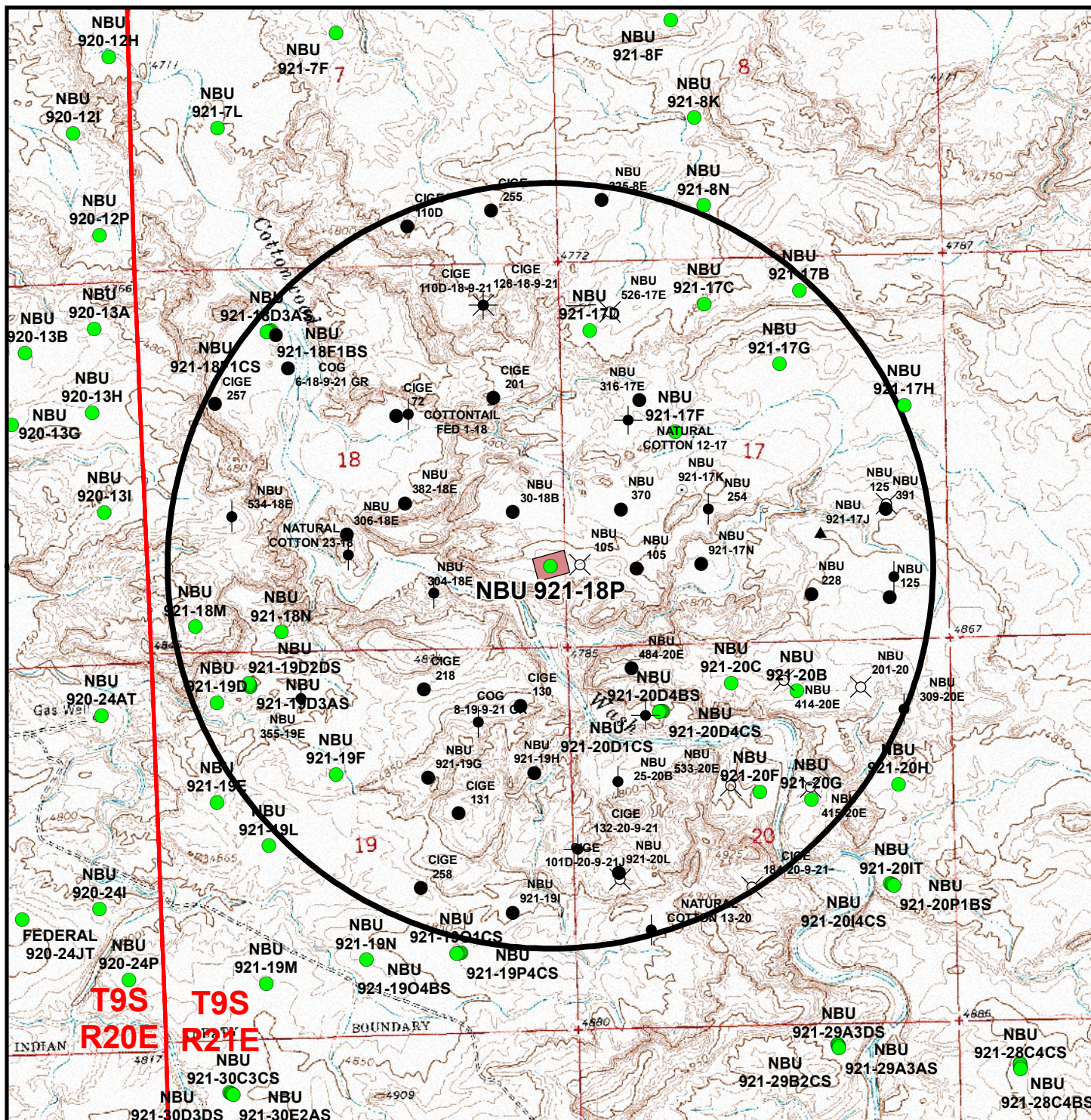
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## 6 of 9





### Legend

- |  |   |   |  |  |
|--|---|---|--|--|
| <span style="color: green;">●</span> Well - Proposed   | <span style="border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Well - 1 Mile Radius | <span style="color: black;">●</span> Producing                                      | <span style="color: grey;">●</span> Location Abandoned     | <span style="color: black;">●</span> Shut-In |
| <span style="background-color: #d3d3d3; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Well Pad |   | <span style="color: black;">▲</span> Approved permit (APD); not yet spudded         | <span style="color: black;">●</span> Temporarily-Abandoned |  |
|  |   | <span style="color: black;">○</span> Spudded (Drilling commenced; Not yet complete) | <span style="color: black;">●</span> Plugged and Abandoned |  |

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**Well Pad - NBU 921-18P**

**NBU 921-18P**

**Topo C**

**1080' FSL, 197' FEL**

**SE¼ SE¼, Section 18, T9S, R21E**

**S.L.B.&M., Uintah County, Utah**



Scale: 1" = 2,000ft

NAD83 USP Central

Sheet No:

Drawn: JELO

Date: 20 April 2009

Revised:

Date:

**7**

7 of 9



## 8 of 9



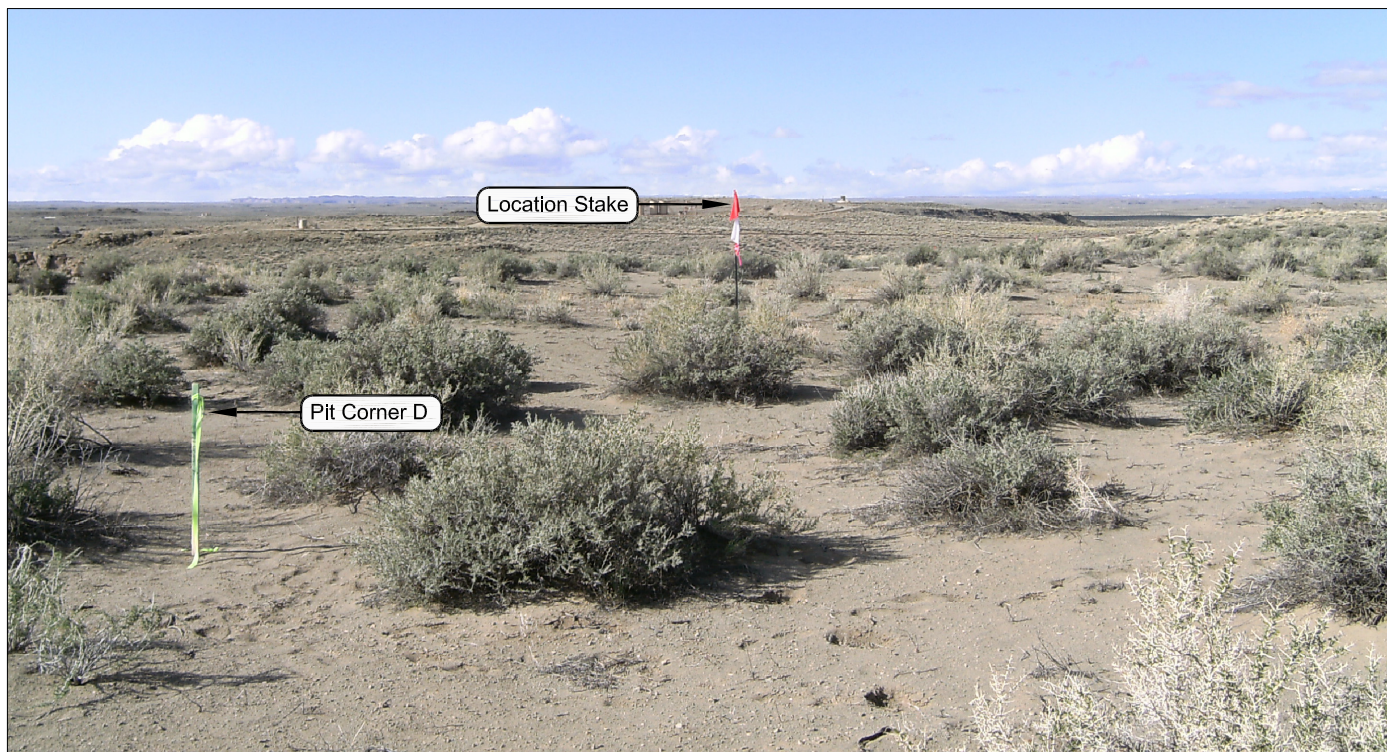


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: SOUTHWESTERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: SOUTHWESTERLY

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street - Denver, Colorado 80202

**Well Pad - NBU 921-18P**

**NBU 921-18P  
LOCATION PHOTOS  
1080' FSL, 197' FEL  
SE  $\frac{1}{4}$  SE  $\frac{1}{4}$  OF SECTION 18, T9S, R21E,  
S.L.B.&M., UINTAH COUNTY, UTAH.**



**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

**TIMBERLINE**

(435) 789-1365

**ENGINEERING & LAND SURVEYING, INC.**  
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 04-15-09	PHOTOS TAKEN BY: B.J.S.	SHEET NO:  <b>4</b>  4 OF 9
DATE DRAWN: 04-17-09	DRAWN BY: K.K.O.	
Date Last Revised:		



**Kerr-McGee Oil & Gas Onshore, LP**  
**WELL PAD - NBU 921-18P**  
**WELL – NBU 921-18P**  
**Section 18, T9S, R21E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 11.2 MILES TO THE INTERSECTION OF THE GLEN BENCH ROAD (COUNTY B ROAD 3260). EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY, THEN NORTHEASTERLY DIRECTION ALONG THE GLEN BENCH ROAD APPROXIMATELY 11.4 MILES TO A CLASS D COUNTY ROAD TO THE SOUTHWEST. EXIT LEFT AND PROCEED IN A SOUTHWESTERLY DIRECTION ALONG THE CLASS D COUNTY ROAD APPROXIMATELY 1.8 MILES TO A SECOND CLASS D COUNTY ROAD TO THE NORTH. EXIT RIGHT AND PROCEED IN A NORTH BY NORTHWEST DIRECTION ALONG THE SECOND CLASS D COUNTY ROAD APPROXIMATELY 0.3 MILES TO A THIRD CLASS D COUNTY ROAD TO THE NORTH. EXIT RIGHT AND PROCEED IN A NORTHERLY, THEN NORTHEASTERLY, THEN NORTHERLY DIRECTION ALONG THE THIRD CLASS D COUNTY ROAD APPROXIMATELY 2.0 MILES TO A SERVICE ROAD TO THE SOUTHWEST. EXIT LEFT AND PROCEED IN A SOUTHWESTERLY, THEN NORTHWESTERLY, THEN WESTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 2.8 MILES TO A SECOND SERVICE ROAD TO THE SOUTH. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG THE SECOND SERVICE ROAD APPROXIMATELY 0.2 MILES TO THE PROPOSED ACCESS ROAD. FOLLOW ROAD FLAGS IN A SOUTHWESTERLY DIRECTION APPROXIMATELY 270 FEET TO THE PROPOSED WELL LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 60.5 MILES IN A SOUTHERLY DIRECTION.

**NBU 921-18P**

Surface: 1,080' FSL 197' FEL (SE/4SE/4)  
Sec. 18 T9S R21E

Uintah, Utah  
Mineral Lease: UTU 0575

Surface Owner: Ute Indian Tribe

**ONSHORE ORDER NO. 1**

***MULTI-POINT SURFACE USE & OPERATIONS PLAN  
SUBMITTED WITH SITE-SPECIFIC INFORMATION***

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 (OSO #1) and supporting Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA) documents. An NOS was submitted showing the surface location in SE/4 SE/4 of Section 18 T9S R21E.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides the site-specific information for the above-referenced wells. This information is to be incorporated by reference into the Master Development Plan (MDP) for Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee). The MDP is available upon request from the BIA-Ft Duchesne Office.

An on-site meeting is scheduled for September 1-3, 2009. Please contact Raleen White at 720-929-6666 for any questions.

**A. Existing Roads:**

- A) Refer to Topo Map A for directions to the location.
- B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

**B. Planned Access Roads:**

*See MDP for additional details on road construction.*

Approximately  $\pm 270'$  ( $\pm 0.05$  miles) of new access road is proposed. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

*Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.*

**C. Location of Existing Wells Within a 1-Mile Radius:**

Please refer to Topo Map C.

**D. Location of Existing and Proposed Facilities:**

*See MDP for additional details on Existing and Proposed Facilities.*

*The following guidelines will apply if the well is productive.*

**Approximately ±1,735' (±0.33 miles) of pipeline is proposed. Refer to Topo D for the existing pipeline.** Appropriate surface use agreements have been or will be obtained from the Ute Indian Tribe. Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place

**E. Location and Type of Water Supply:**

*See MDP for additional details on Location and Type of Water Supply.*

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

No water well is to be drilled on this lease.

**F. Source of Construction Materials:**

*See MDP for additional details on Source of Construction Materials.*

**G. Methods of Handling Waste Materials:**

*See MDP for additional details on Methods of Handling Waste Materials.*

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E  
NBU #159 in Sec. 35 T9S R21E  
Ace Oilfield in Sec. 2 T6S R20E  
MC&MC in Sec. 12 T6S R19E  
Pipeline Facility in Sec. 36 T9S R20E  
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E  
Bonanza Evaporation Pond in Sec. 2 T10S R23E

**H. Ancillary Facilities:**

*See MDP for additional details on Ancillary Facilities.*

None are anticipated.

**I. Well Site Layout: (See Location Layout Diagram)**

*See MDP for additional details on Well Site Layout.*

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
- Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

**J. Plans for Reclamation of the Surface:**

*See MDP for additional details on Plans for Reclamation of the Surface.*

Kerr-McGee shall call the BIA for the seed mixture prior to starting interim and/or final reclamation actions.

**K. Surface/Mineral Ownership:**

The well pad and access road are located on lands owned by:

Ute Indian Tribe  
PO Box 70  
Fort Duchesne, Utah 84026  
435-722-5141

The mineral ownership is listed below:

United States of America  
Bureau of Land Management  
170 South 500 East  
Vernal, UT 84078  
435-781-4400

**L. Other Information:**

*See MDP for additional details on Other Information.*

**M. Lessee's or Operators' Representative & Certification:**

Kathy Schneebeck Dulnoan  
Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6007

Tommy Thompson  
General Manager, Drilling  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6724


Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

  
\_\_\_\_\_  
Kathy Schneebeck Dulnoan

August 27, 2009  
\_\_\_\_\_  
Date

CLASS I REVIEW OF KERR-MCGEE OIL & GAS  
ONSHORE LP'S 51 PROPOSED WELL LOCATIONS  
(T9S, R21E, SECTIONS 7, 8, 10, 11, 12,  
17, 18, 19, 20, 23, 25, AND 30)  
IN Uintah COUNTY, UTAH

By:

Jacki A. Montgomery

Prepared For:

Ute Tribal Land  
Uintah and Ouray Agency

Bureau of Land Management  
Vernal Field Office

Prepared Under Contract With:

Kerr-McGee Oil & Gas Onshore LP  
1368 South 1200 East  
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.  
P.O. Box 219  
Moab, Utah 84532

MOAC Report No. 09-39

May 11, 2009

United States Department of Interior (FLPMA)  
Permit No. 09-UT-60122

Public Lands Policy Coordination Office  
Archaeological Survey Permit No. 117

Ute Tribal Permit No. A09-363

**IPC #09-96**

# **Paleontological Reconnaissance Survey Report**

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**Survey of Kerr McGee's Proposed Well Pads, Access Roads  
& Pipelines for "NBU #921-17C, D, F, &18P"  
(Sec. 8, 17, & 18, T 9 S, R 21 E)**

Ouray SE  
Topographic Quadrangle  
Uintah County, Utah

June 24, 2009

Prepared by Stephen D. Sandau  
Paleontologist for  
Intermountain Paleo-Consulting  
P. O. Box 1125  
Vernal, Utah 84078



# Grasslands Consulting, Inc.

4800 Happy Canyon Road, Suite 110, Denver, CO 80237

(303) 759-5377 Office (303) 759-5324 Fax

## **SPECIAL STATUS PLANT AND WILDLIFE SPECIES REPORT**

**Report #:** GCI #52

**Operator:** Kerr-McGee Oil & Gas Onshore LP

**Well:** NBU 921-18P

**Pipeline:** Associated pipeline to proposed well pad

**Access Road:** Associated access road to proposed well pad

**Location:** Section 18, Township 9 South, Range 21 East; Uintah County, Utah

**Survey-Species:** Uinta Basin Hookless Cactus (*Sclerocactus wetlandicus*) and nesting raptors

**Date:** 06/24/2009

**Observers:** Grasslands Consulting, Inc. Biologists: Nick Hall, Jay Slocum, Matt Kelahan, Dan Hamilton, and Jonathan Sexauer. Technician: Chad Johnson

**Weather:** Partly cloudy, 70-90°F, 0-15 mph winds with no precipitation.



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:  
3160  
(UT-922)

August 28, 2009

### Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2009 Plan of Development Natural Buttes Unit Uintah  
County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2009 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50640	NBU 1022-8B1DS	Sec 08 T10S R22E 0931 FNL 1709 FEL
	BHL	Sec 08 T10S R22E 0367 FNL 1518 FEL
43-047-50641	NBU 1022-8B4AS	Sec 08 T10S R22E 0919 FNL 1693 FEL
	BHL	Sec 08 T10S R22E 0744 FNL 1518 FEL
43-047-50642	NBU 1022-8C1AS	Sec 08 T10S R22E 0943 FNL 1725 FEL
	BHL	Sec 08 T10S R22E 0102 FNL 2415 FWL
43-047-50643	NBU 1022-8C1CS	Sec 08 T10S R22E 0955 FNL 1742 FEL
	BHL	Sec 08 T10S R22E 0418 FNL 2252 FWL
43-047-50644	NBU 922-30C3S	Sec 30 T09S R22E 1253 FNL 0663 FWL
	BHL	Sec 30 T09S R22E 1238 FNL 1154 FWL
43-047-50645	NBU 922-30D3AS	Sec 30 T09S R22E 1232 FNL 0607 FWL
	BHL	Sec 30 T09S R22E 0680 FNL 0382 FWL
43-047-50646	NBU 921-30C3CS	Sec 30 T09S R21E 0783 FNL 0920 FWL
	BHL	Sec 30 T09S R21E 0993 FNL 1985 FWL
43-047-50647	NBU 921-30D2DS	Sec 30 T09S R21E 0747 FNL 0871 FWL
	BHL	Sec 30 T09S R21E 0460 FNL 0665 FWL

Page 2

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50648	NBU 921-30D3DS	Sec 30 T09S R21E 0759 FNL 0887 FWL BHL Sec 30 T09S R21E 1152 FNL 0665 FWL
43-047-50649	NBU 921-30E2AS	Sec 30 T09S R21E 0771 FNL 0903 FWL BHL Sec 30 T09S R21E 1522 FNL 0665 FWL
43-047-50650	NBU 1022-7N1S	Sec 07 T10S R22E 0089 FSL 1920 FEL BHL Sec 07 T10S R22E 0895 FSL 1870 FWL
43-047-50651	NBU 1022-7N4S	Sec 07 T10S R22E 0097 FSL 1938 FEL BHL Sec 07 T10S R22E 0595 FSL 1740 FWL
43-047-50652	NBU 1022-7O4AS	Sec 07 T10S R22E 0081 FSL 1902 FEL BHL Sec 07 T10S R22E 0550 FSL 1560 FEL
43-047-50653	NBU 1022-7O4DS	Sec 07 T10S R22E 0074 FSL 1883 FEL BHL Sec 07 T10S R22E 0230 FSL 1650 FEL
43-047-50655	NBU 922-30D3DS	Sec 30 T09S R22E 1226 FNL 0588 FWL BHL Sec 30 T09S R22E 1314 FNL 0352 FWL
43-047-50656	NBU 922-30E2AS	Sec 30 T09S R22E 1246 FNL 0645 FWL BHL Sec 30 T09S R22E 1636 FNL 0352 FWL
43-047-50678	NBU 922-31G4BS	Sec 31 T09S R22E 2317 FSL 0188 FEL BHL Sec 31 T09S R22E 1994 FNL 1808 FEL
43-047-50679	NBU 922-31G4CS	Sec 31 T09S R22E 2316 FSL 0198 FEL BHL Sec 31 T09S R22E 2353 FNL 1796 FEL
43-047-50680	NBU 922-31I1AS	Sec 31 T09S R22E 2317 FSL 0178 FEL BHL Sec 31 T09S R22E 2483 FSL 0243 FEL
43-047-50681	NBU 922-31I1DS	Sec 31 T09S R22E 2317 FSL 0168 FEL BHL Sec 31 T09S R22E 2137 FSL 0264 FEL
43-047-50682	NBU 921-12J	Sec 12 T09S R21E 1959 FSL 2051 FEL
43-047-50684	NBU 1022-6I3AS	Sec 06 T10S R22E 1160 FSL 1584 FEL BHL Sec 06 T10S R22E 1684 FSL 1167 FEL
43-047-50685	NBU 1022-6J4CS	Sec 06 T10S R22E 1178 FSL 1593 FEL BHL Sec 06 T10S R22E 1535 FSL 1760 FEL
43-047-50686	NBU 1022-6O1BS	Sec 06 T10S R22E 1124 FSL 1567 FEL BHL Sec 06 T10S R22E 1197 FSL 1811 FEL

Page 3

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50687	NBU 1022-6P1CS	Sec 06 T10S R22E 1142 FSL 1575 FEL
	BHL	Sec 06 T10S R22E 0989 FSL 0541 FEL
43-047-50691	NBU 921-29A3AS	Sec 29 T09S R21E 0299 FNL 2630 FEL
	BHL	Sec 29 T09S R21E 0700 FNL 0885 FEL
43-047-50692	NBU 921-29A3DS	Sec 29 T09S R21E 0303 FNL 2628 FWL
	BHL	Sec 29 T09S R21E 1193 FNL 0885 FEL
43-047-50694	NBU 921-29A2AS	Sec 29 T09S R21E 0296 FNL 2611 FEL
	BHL	Sec 29 T09S R21E 0209 FNL 0885 FEL
43-047-50693	NBU 921-29B2CS	Sec 29 T09S R21E 0307 FNL 2608 FWL
	BHL	Sec 29 T09S R21E 0443 FNL 2635 FEL
43-047-50695	NBU 921-12N	Sec 12 T09S R21E 0441 FSL 2236 FWL
43-047-50698	NBU 921-19F	Sec 19 T09S R21E 2236 FNL 2285 FWL
43-047-50699	NBU 921-17C	Sec 17 T09S R21E 0656 FNL 2004 FWL
43-047-50700	NBU 921-17D	Sec 17 T09S R21E 0985 FNL 0418 FWL
43-047-50701	NBU 921-17G	Sec 17 T09S R21E 1500 FNL 2262 FEL
43-047-50702	NBU 921-17H	Sec 17 T09S R21E 2100 FNL 0553 FEL
43-047-50703	NBU 921-18P	Sec 18 T09S R21E 1080 FSL 0197 FEL
43-047-50704	NBU 921-19E	Sec 19 T09S R21E 2061 FNL 0842 FWL

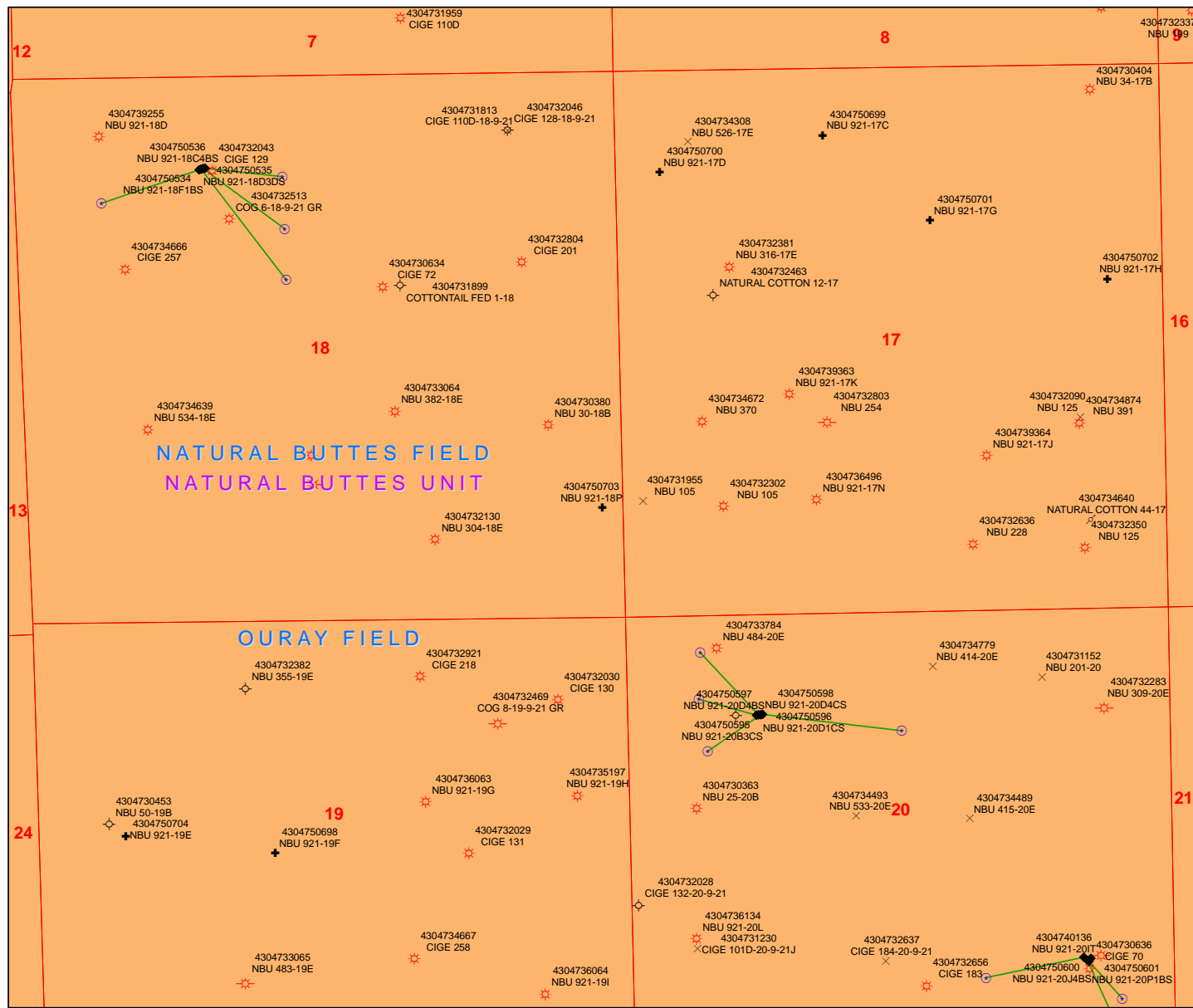
This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File – Natural Buttes Unit  
Division of Oil Gas and Mining  
Central Files  
Agr. Sec. Chron

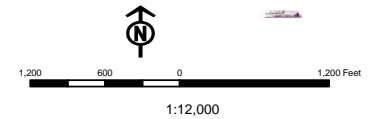
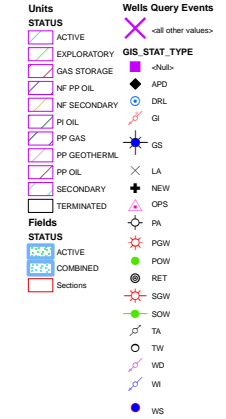
Fluid Chron

MCoulthard:mc:8-28-09



**API Number: 4304750703**  
**Well Name: NBU 921-18P**  
**Township 09.0 S Range 21.0 E Section 18**  
**Meridian: SLBM**  
**Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.**

Map Prepared:  
 Map Produced by Diana Mason



# WORKSHEET

## APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 8/27/2009

**API NO. ASSIGNED:** 43047507030000

**WELL NAME:** NBU 921-18P

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

**PHONE NUMBER:** 720 929-6156

**CONTACT:** Danielle Piernot

**PROPOSED LOCATION:** SESE 18 090S 210E

**Permit Tech Review:** ☒

**SURFACE:** 1080 FSL 0197 FEL

**Engineering Review:** ☒

**BOTTOM:** 1080 FSL 0197 FEL

**Geology Review:** ☒

**COUNTY:** UINTAH

**LATITUDE:** 40.03169

**LONGITUDE:** -109.58503

**UTM SURF EASTINGS:** 620731.00

**NORTHINGS:** 4432023.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 1 - Federal

**LEASE NUMBER:** UTU 0575

**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

**SURFACE OWNER:** 2 - Indian

**COALBED METHANE:** NO

### RECEIVED AND/OR REVIEWED:

☒ **PLAT**

☒ **Bond:** FEDERAL - WYB000291

☐ **Potash**

☒ **Oil Shale 190-5**

☐ **Oil Shale 190-3**

☐ **Oil Shale 190-13**

☒ **Water Permit:** Permit #43-8496

☐ **RDCC Review:**

☐ **Fee Surface Agreement**

☒ **Intent to Commingle**

**Commingle Approved**

### LOCATION AND SITING:

☐ **R649-2-3.**

**Unit:** NATURAL BUTTES

☐ **R649-3-2. General**

☐ **R649-3-3. Exception**

☒ **Drilling Unit**

**Board Cause No:** Cause 173-14

**Effective Date:** 12/2/1999

**Siting:** 460' fr u bdry & uncomm. tract

☐ **R649-3-11. Directional Drill**

**Comments:** Presite Completed

**Stipulations:**  
3 - Commingle - ddoucet  
4 - Federal Approval - dmason  
17 - Oil Shale 190-5(b) - dmason



JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

## State of Utah

### DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

#### Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

## Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 921-18P  
**API Well Number:** 43047507030000  
**Lease Number:** UTU 0575  
**Surface Owner:** INDIAN  
**Approval Date:** 9/2/2009

#### Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

#### Authority:

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

#### Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

#### Commingling:

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

#### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### Conditions of Approval:

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

#### Notification Requirements:

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284 (please leave a voicemail message if not available)

OR

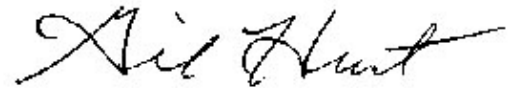
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <https://oilgas.ogm.utah.gov>

**Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

**Approved By:**

A handwritten signature in black ink, appearing to read "Gil Hunt", written in a cursive style.

Gil Hunt  
Associate Director, Oil & Gas



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18P
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1080 FSL 0197 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 18 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047507030000
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH

**11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

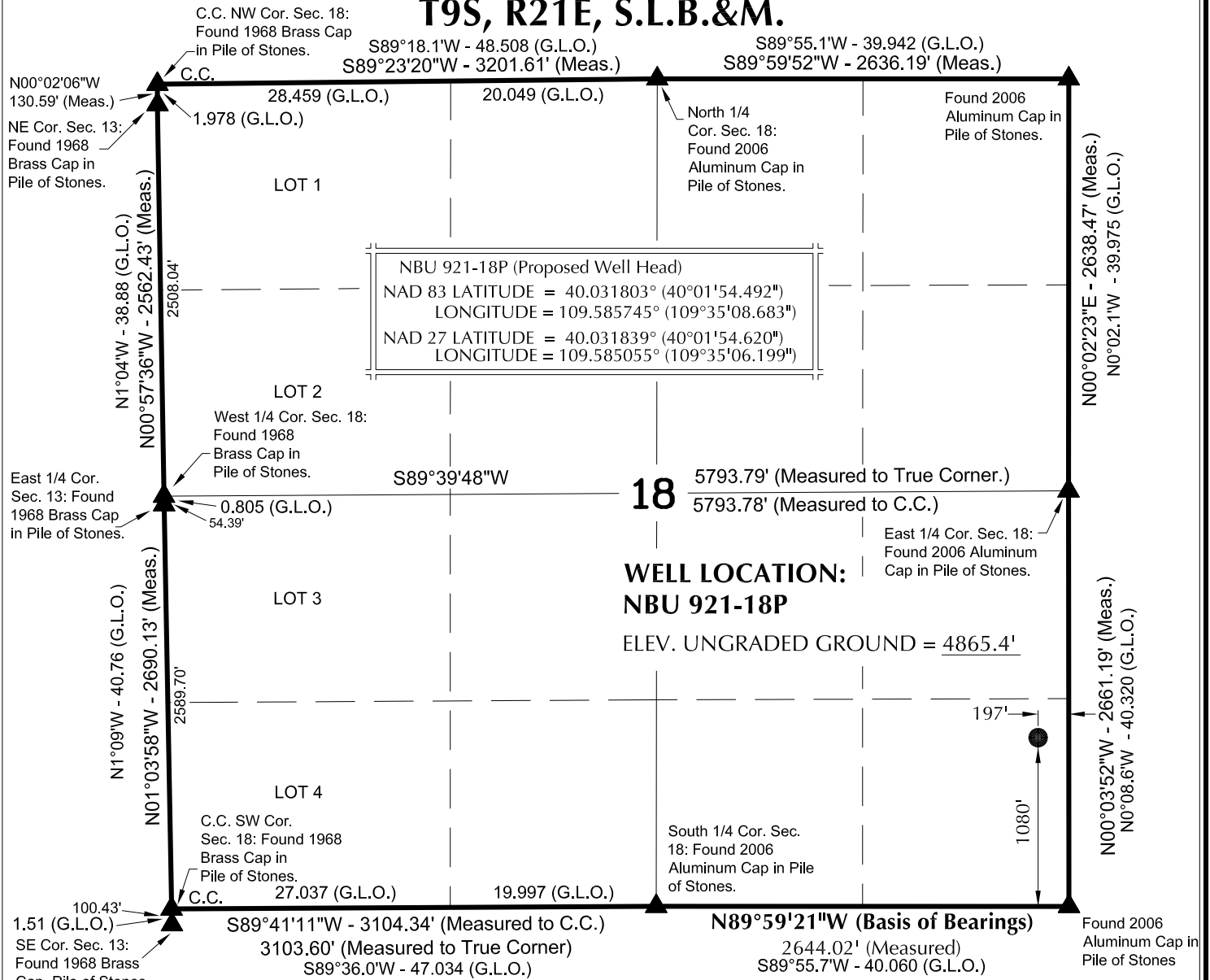
TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 10/4/2009  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: _____

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**  
 Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests to change the well pad design for this well location. The backflow pit was dropped and the reserve pit was slid towards the laydown side of the well pad. Please see the attached revised survey plats for the new well pad design. All other information remains the same. If you have any questions, please contact the undersigned. Thank you.

<b>NAME (PLEASE PRINT)</b> Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 9/30/2009	

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 October 05, 2009

**T9S, R21E, S.L.B.&M.**



NOTES:

- ▲ = Section Corners Located
1. Well footages are measured at right angles to the Section Lines.
  2. G.L.O. distances are shown in feet or chains.  
1 chain = 66 feet.
  3. Bearings are based on Global Positioning Satellite observations.
  4. Basis of elevation is Tri-Sta "Two Water" located in the NW  $\frac{1}{4}$  of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-18P

**NBU 921-18P  
WELL PLAT  
1080' FSL, 197' FEL  
SE  $\frac{1}{4}$  SE  $\frac{1}{4}$  OF SECTION 18, T9S, R21E,  
S.L.B.&M., UTAH COUNTY, UTAH.**



**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

### SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR  
REGISTRATION No. 362251  
STATE OF UTAH

## TIMBERLINE

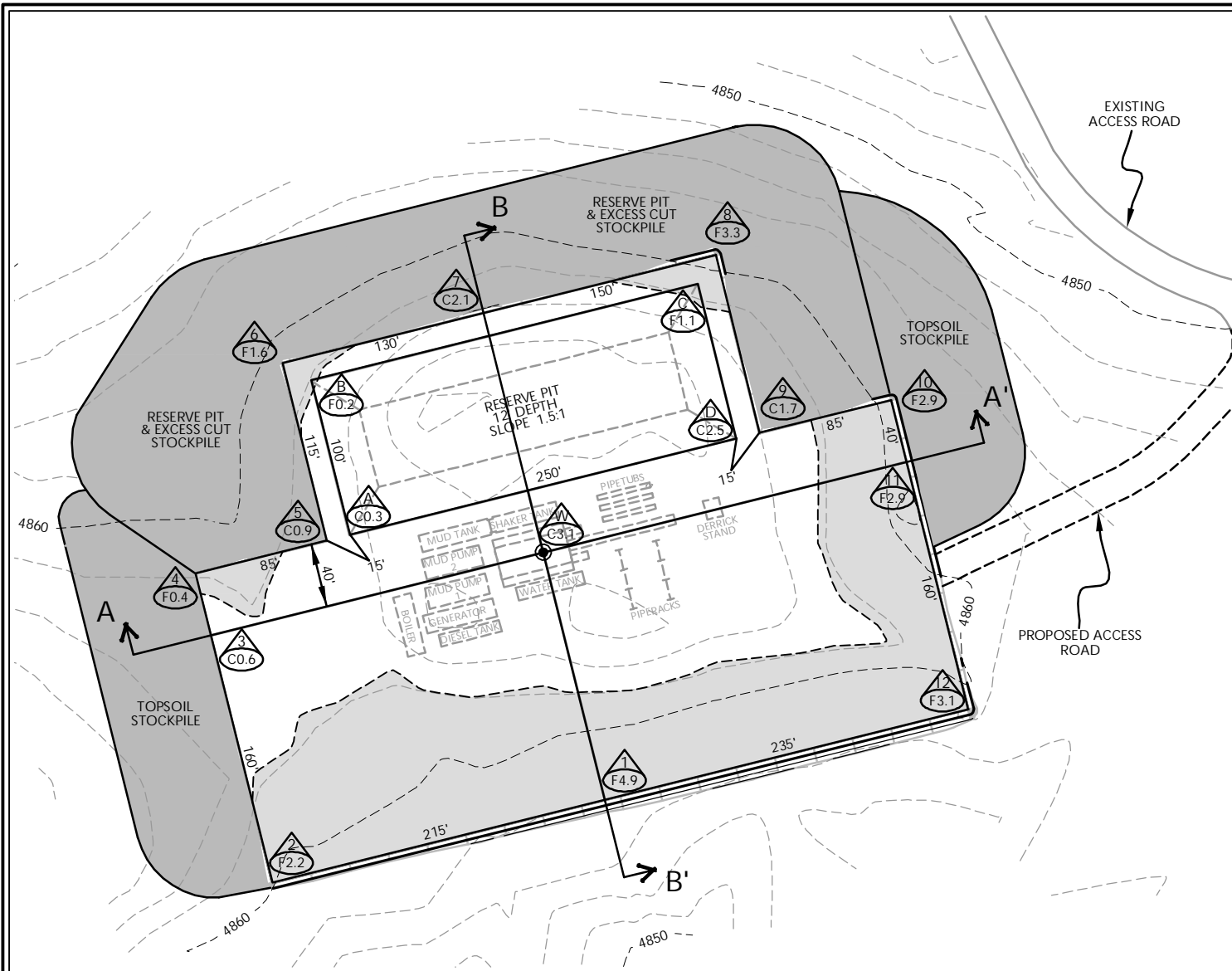
(435) 789-1365

ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 04-15-09	SURVEYED BY: B.J.S.	SHEET NO:  <b>1</b>  1 OF 9
DATE DRAWN: 04-17-09	DRAWN BY: K.K.O.	
SCALE: 1" = 1000'	Date Last Revised:	

RECEIVED September 30, 2009

K:\ANADARKO\2009\_08\_NBU\_Tribal\_3DWGS\NBU\_921-18P\921-18P REDESIGN.dwg, 9/29/2009 1:25:14 PM



#### WELL PAD LEGEND

- WELL LOCATION
- - - EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)

#### WELL PAD NBU 921-18P QUANTITIES

EXISTING GRADE @ LOC. STAKE = 4865.4'  
FINISHED GRADE ELEVATION = 4862.3'  
CUT SLOPES = 1.5:1  
FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 5,802 C.Y.  
TOTAL FILL FOR WELL PAD = 5,099 C.Y.  
TOPSOIL @ 6" DEPTH = 2,366 C.Y.  
EXCESS MATERIAL = 703 C.Y.  
TOTAL PAD DISTURBANCE = 2.93 ACRES  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00  
RESERVE PIT CAPACITY (2' OF FREEBOARD)  
+/- 32,370 BARRELS  
RESERVE PIT VOLUME  
+/- 8,510 CY

Kerr-McGee Oil & Gas Onshore, LP  
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-18P

WELL PAD - LOCATION LAYOUT  
NBU 921-18P

1080' FSL, 197' FEL  
SE1/4 SE1/4 OF SECTION 18, T9S, R21E  
S.L.B.&M., Uintah County, Utah



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

Scale: 1"=100'

Date: 4/24/09

SHEET NO:

2

2 OF 9

REVISED:

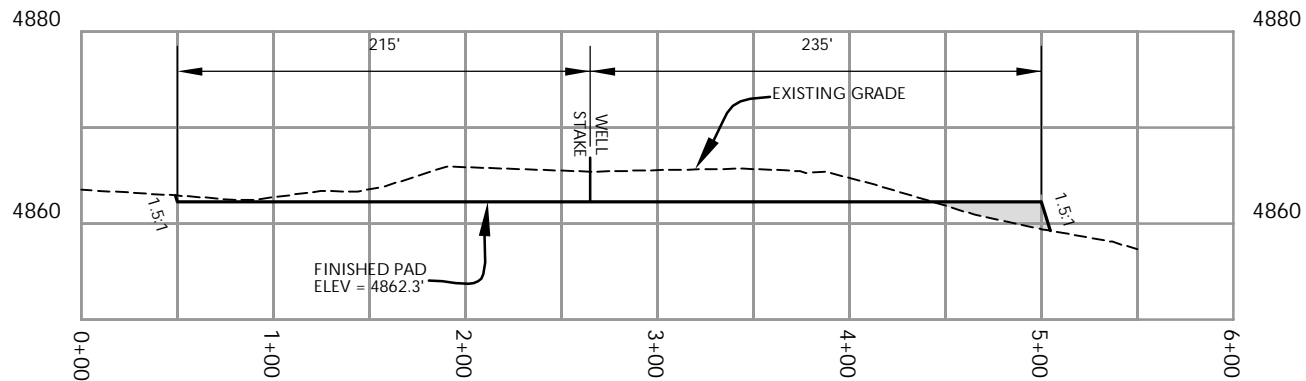
SEA  
9/25/09

**TIMBERLINE**  
ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078  
(435) 789-1365

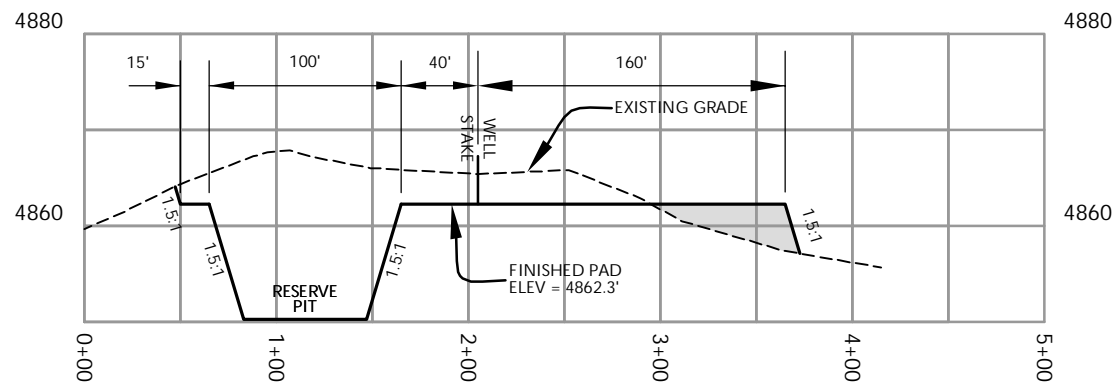


HORIZONTAL 0 50 100 1" = 100'  
2' CONTOURS

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CROSS SECTION A-A'



CROSS SECTION B-B'

Kerr-McGee Oil & Gas Onshore, LP  
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-18P

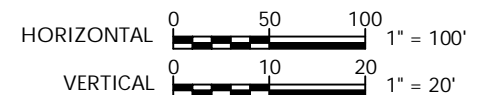
WELL PAD - CROSS SECTIONS  
NBU 921-18P

1080' FSL, 197' FEL  
SE1/4 SE1/4 OF SECTION 18, T9S, R21E  
S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

Scale: 1"=100'	Date: 4/24/09	SHEET NO:
REVISED:	SEA 9/25/09	3 3 OF 9



**TIMBERLINE** (435) 789-1365  
**ENGINEERING & LAND SURVEYING, INC.**  
209 NORTH 300 WEST - VERNAL, UTAH 84078

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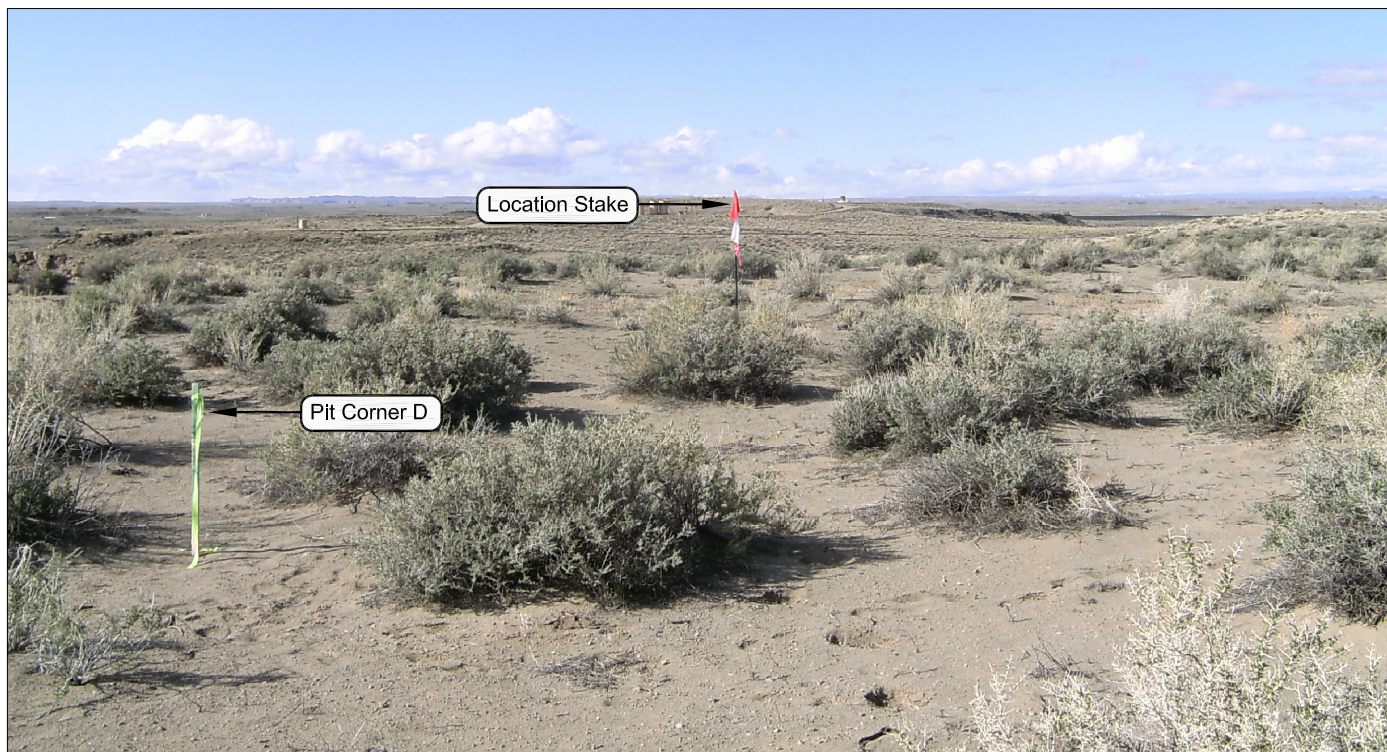


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: SOUTHWESTERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: SOUTHWESTERLY

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street - Denver, Colorado 80202

**Well Pad - NBU 921-18P**

**NBU 921-18P  
LOCATION PHOTOS  
1080' FSL, 197' FEL  
SE  $\frac{1}{4}$  SE  $\frac{1}{4}$  OF SECTION 18, T9S, R21E,  
S.L.B.&M., UINTAH COUNTY, UTAH.**



**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

**TIMBERLINE**

(435) 789-1365

**ENGINEERING & LAND SURVEYING, INC.**  
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN:  
04-15-09

PHOTOS TAKEN BY: B.J.S.

SHEET NO:

DATE DRAWN:  
04-17-09

DRAWN BY: K.K.O.

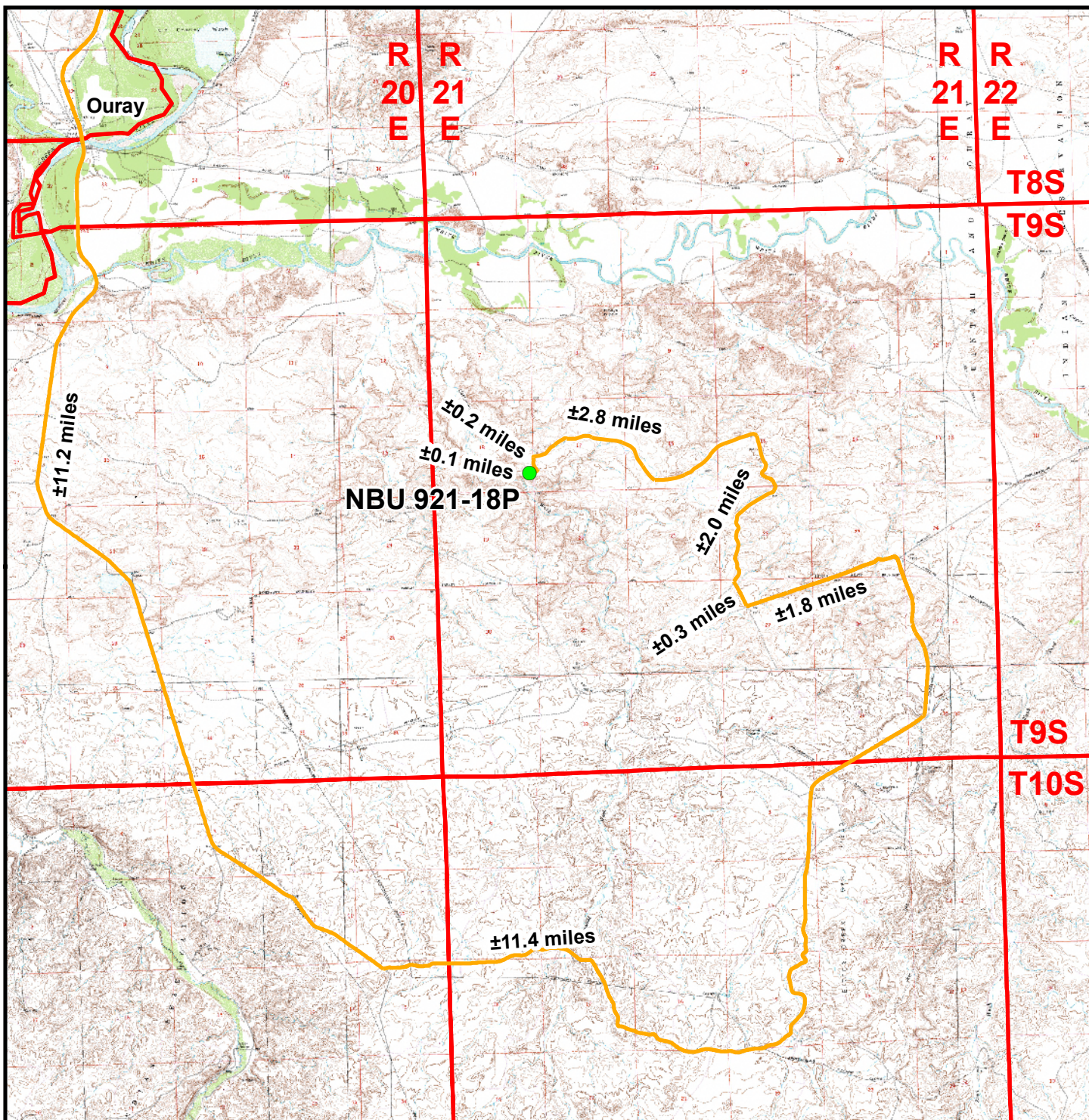
**4**

Date Last Revised:

4 OF 9

**RECEIVED** September 30, 2009





### Legend

- Proposed NBU 921-18P Well Location
- Access Route - Proposed

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**Well Pad - NBU 921-18P**

**NBU 921-18P**

**Topo A**

**1080' FSL, 197' FEL**

**SE¼ SE¼, Section 18, T9S, R21E**

**S.L.B.&M., Uintah County, Utah**

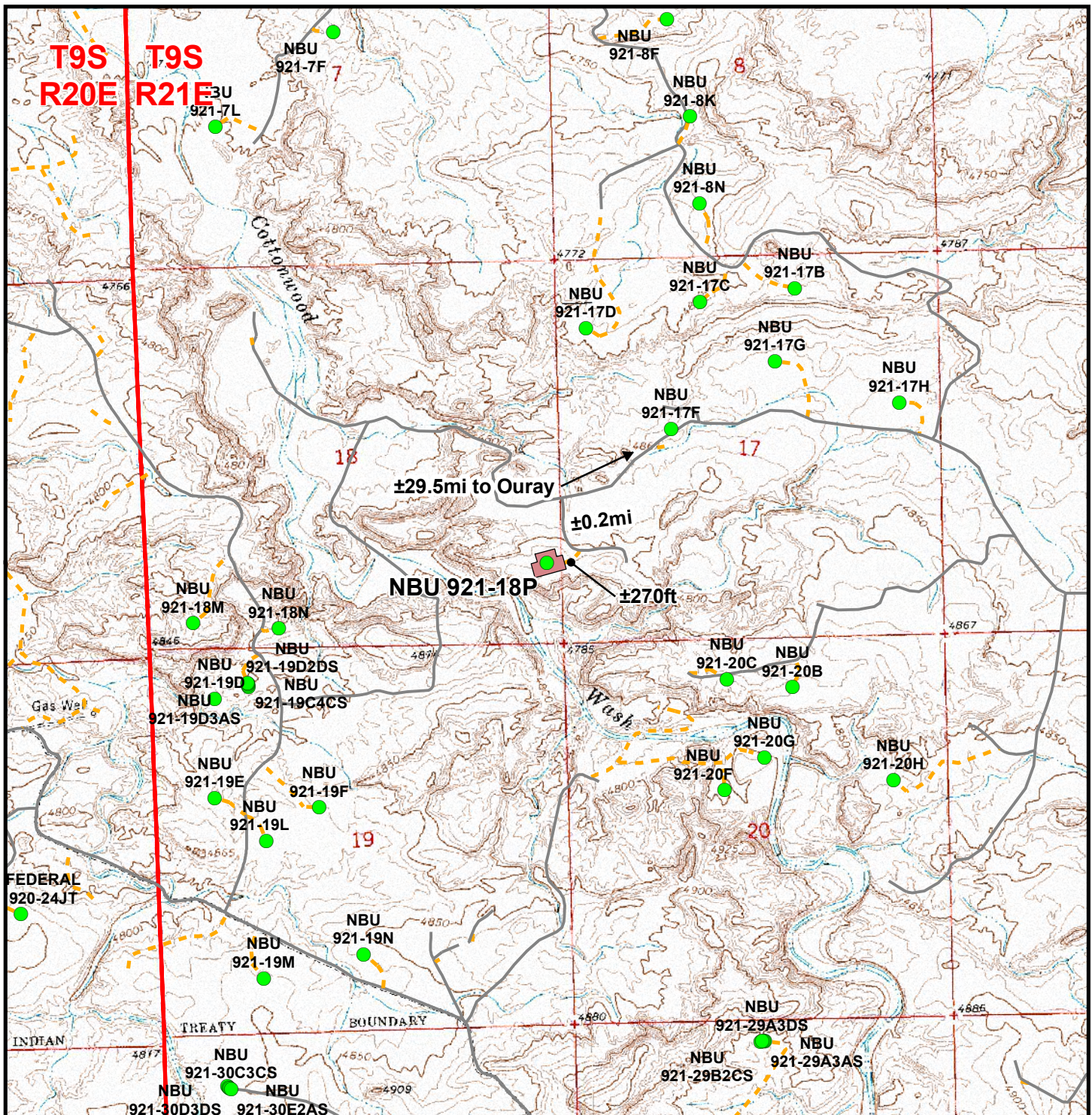


Scale: 1:100,000	NAD83 USP Central	Sheet No:
Drawn: JELO	Date: 20 April 2009	<b>5</b>
Revised: CPS	Date: 28 Sep 2009	

5 of 9

**RECEIVED** September 30, 2009





## Legend

- Well - Proposed
- Well Pad
- - - Road - Proposed
- Road - Existing

Total Proposed Road Length: ±270ft

Kerr-McGee Oil & Gas Onshore, LP  
1099 18th Street, Denver, Colorado 80202

Well Pad - NBU 921-18P

NBU 921-18P

Topo B

1080' FSL, 197' FEL

SE¼ SE¼, Section 18, T9S, R21E

S.L.B.&M., Uintah County, Utah



Scale: 1" = 2,000ft  
NAD83 USP Central  
Drawn: JELO  
Revised: CPS

Date: 20 April 2009  
Date: 28 Sep 2009

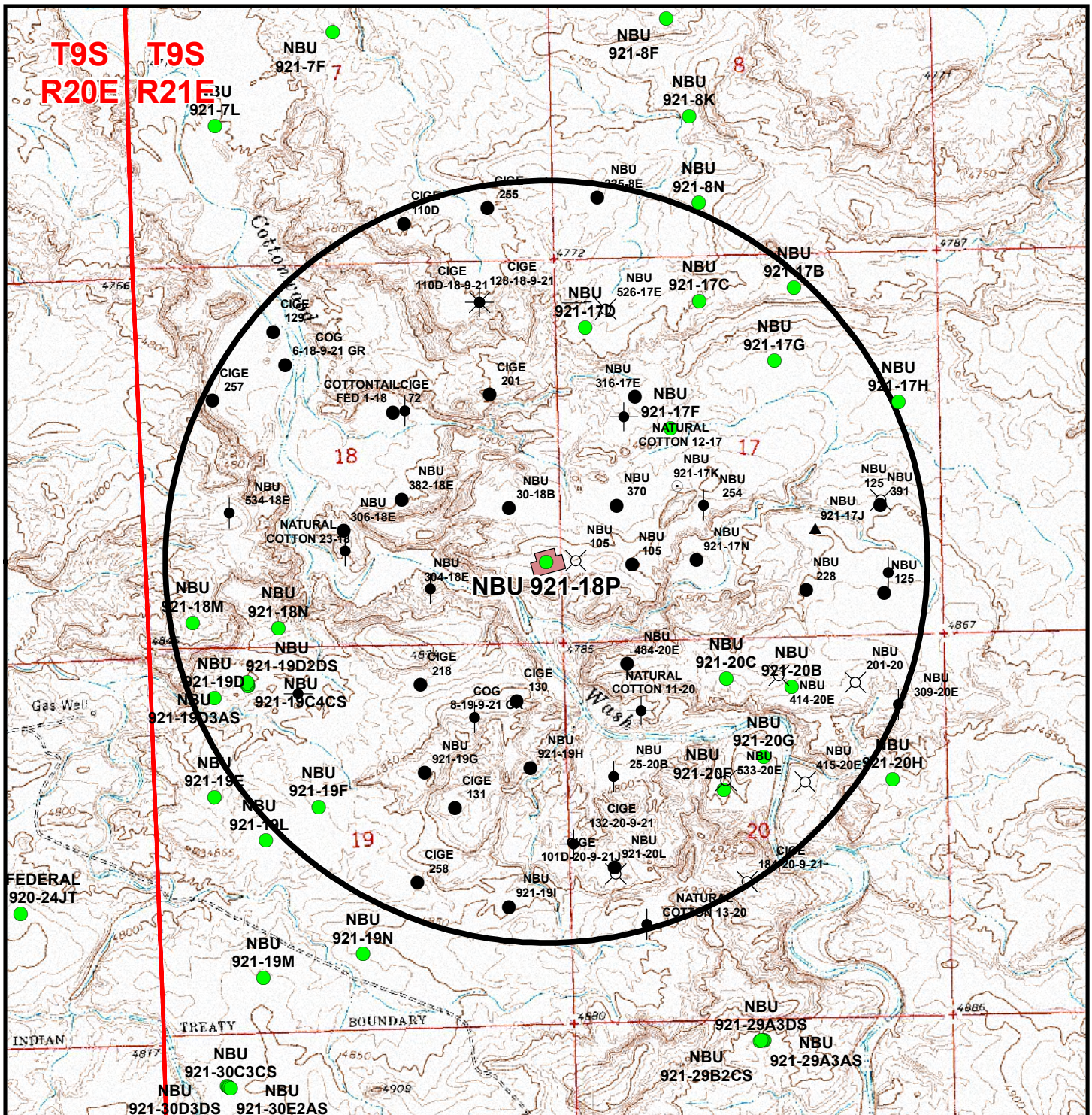
Sheet No:

6

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RECEIVED September 30, 2009





### Legend

- Well - Proposed
- Well - 1 Mile Radius
- Producing
- ▲ Approved permit (APD); not yet spudded
- Spudded (Drilling commenced: Not yet complete)
- ✕ Location Abandoned
- Shut-In
- Well Pad
- Temporarily-Abandoned
- Plugged and Abandoned

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**Well Pad - NBU 921-18P**

**NBU 921-18P**

**Topo C**

**1080' FSL, 197' FEL**

**SE¼ SE¼, Section 18, T9S, R21E**

**S.L.B.&M., Uintah County, Utah**

**609**

**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



Scale: 1" = 2,000ft | NAD83 USP Central

Drawn: JELo | Date: 20 April 2009

Revised: CPS | Date: 28 Sep 2009

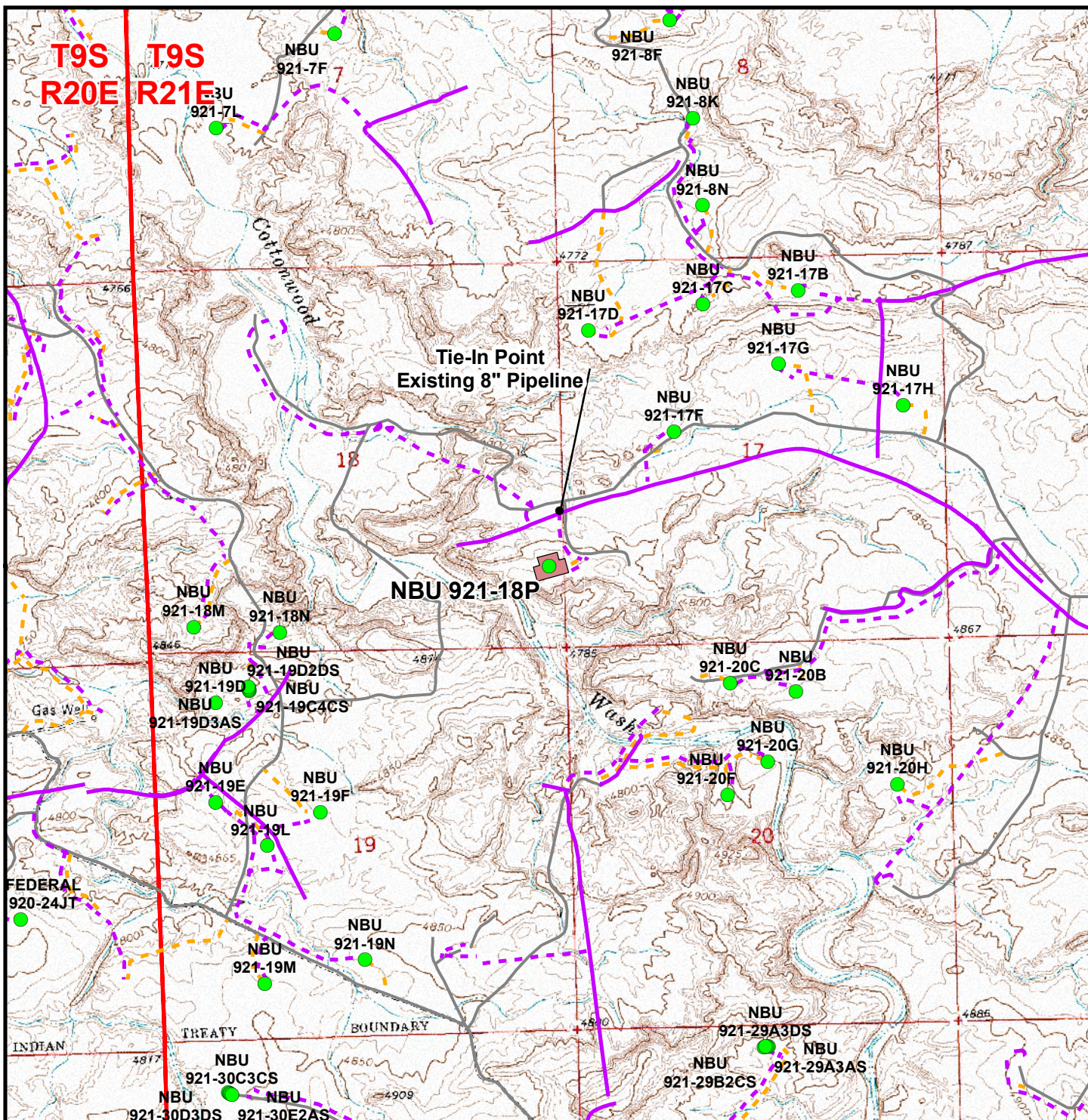
Sheet No:

**7**

7 of 9

**RECEIVED** September 30, 2009





### Legend

- Well - Proposed
- Well Pad
- - - Pipeline - Proposed
- - - Road - Proposed
- Pipeline - Existing
- Road - Existing

Proposed Pipeline Length From Tie-In Point To Edge Of Pad:  $\pm 1,075\text{ft}$   
 Proposed Pipeline Length Around Pad:  $\pm 660\text{ft}$

**Kerr-McGee Oil & Gas Onshore, LP**  
 1099 18th Street, Denver, Colorado 80202

**Well Pad - NBU 921-18P**

**NBU 921-18P**

**Topo D**

**1080' FSL, 197' FEL**

**SE $\frac{1}{4}$  SE $\frac{1}{4}$ , Section 18, T9S, R21E**

**S.L.B.&M., Uintah County, Utah**



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: JELo	Date: 20 April 2009	<b>8</b>
Revised: CPS	Date: 28 Sep 2009	8 of 9

**RECEIVED** September 30, 2009



**Kerr-McGee Oil & Gas Onshore, LP**  
**WELL PAD - NBU 921-18P**  
**WELL – NBU 921-18P**  
**Section 18, T9S, R21E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 11.2 MILES TO THE INTERSECTION OF THE GLEN BENCH ROAD (COUNTY B ROAD 3260). EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY, THEN NORTHEASTERLY DIRECTION ALONG THE GLEN BENCH ROAD APPROXIMATELY 11.4 MILES TO A CLASS D COUNTY ROAD TO THE SOUTHWEST. EXIT LEFT AND PROCEED IN A SOUTHWESTERLY DIRECTION ALONG THE CLASS D COUNTY ROAD APPROXIMATELY 1.8 MILES TO A SECOND CLASS D COUNTY ROAD TO THE NORTH. EXIT RIGHT AND PROCEED IN A NORTH BY NORTHWEST DIRECTION ALONG THE SECOND CLASS D COUNTY ROAD APPROXIMATELY 0.3 MILES TO A THIRD CLASS D COUNTY ROAD TO THE NORTH. EXIT RIGHT AND PROCEED IN A NORTHERLY, THEN NORTHEASTERLY, THEN NORTHERLY DIRECTION ALONG THE THIRD CLASS D COUNTY ROAD APPROXIMATELY 2.0 MILES TO A SERVICE ROAD TO THE SOUTHWEST. EXIT LEFT AND PROCEED IN A SOUTHWESTERLY, THEN NORTHWESTERLY, THEN WESTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 2.8 MILES TO A SECOND SERVICE ROAD TO THE SOUTH. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG THE SECOND SERVICE ROAD APPROXIMATELY 0.2 MILES TO THE PROPOSED ACCESS ROAD. FOLLOW ROAD FLAGS IN A SOUTHWESTERLY DIRECTION APPROXIMATELY 270 FEET TO THE PROPOSED WELL LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 60.5 MILES IN A SOUTHERLY DIRECTION.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18P
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1080 FSL 0197 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 18 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047507030000
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UTAH		<b>STATE:</b> UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 8/31/2010  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> APD EXTENSION OTHER: <span style="border: 1px solid black; display: inline-block; width: 100px; height: 15px; vertical-align: middle;"></span>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  
 Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.

Approved by the  
Utah Division of  
Oil, Gas and Mining

Date: August 31, 2010

By:

<b>NAME (PLEASE PRINT)</b> Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 8/31/2010



## The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

### Request for Permit Extension Validation Well Number 43047507030000

**API:** 43047507030000

**Well Name:** NBU 921-18P

**Location:** 1080 FSL 0197 FEL QTR SESE SEC 18 TWP 090S RNG 210E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 9/1/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☐ Yes ☒ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Signature:** Danielle Piernot

**Date:** 8/31/2010

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date:** August 31, 2010

**By:** 

**RECEIVED** August 31, 2010

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

AUG 27 2009

FORM APPROVED  
OMB No. 1004-0136  
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU0575
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KERRMCGEE OIL&GAS ONSHORE LP Contact: DANIELLE E PIERNOT Email: Danielle.Piernot@anadarko.com		7. If Unit or CA Agreement, Name and No. 891008900A
3a. Address PO BOX 173779 DENVER, CO 80202-3779		8. Lease Name and Well No. NBU 921-18P
3b. Phone No. (include area code) Ph: 720-929-6156 Fx: 720-929-7156		9. API Well No. 43 047 50703
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface SESE 1080FSL 197FEL 40.03180 N Lat, 109.58575 W Lon At proposed prod. zone SESE 1080FSL 197FEL 40.03180 N Lat, 109.58575 W Lon		10. Field and Pool, or Exploratory NATURAL BUTTES
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 30 MILES SOUTHEAST OF OURAY, UTAH		11. Sec., T., R., M., or Blk. and Survey or Area Sec 18 T9S R21E Mer SLB
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 197 FEET	16. No. of Acres in Lease 1600.00	12. County or Parish UINTAH
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. APPROXIMATELY 1600 FEET		13. State UT
19. Proposed Depth 10454 MD 10454 TVD		17. Spacing Unit dedicated to this well
21. Elevations (Show whether DF, KB, RT, GL, etc.) 4865 GL		20. BLM/BIA Bond No. on file WYB000291
22. Approximate date work will start 09/14/2009		23. Estimated duration 60-90 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature (Electronic Submission)	Name (Printed/Typed) DANIELLE E PIERNOT Ph: 720-929-6156	Date 08/27/2009
Title REGULATORY ANALYST		
Approved by (Signature) 	Name (Printed/Typed) Jerry Kenczka	Date JUN 21 2011
Title Assistant Field Manager Lands & Mineral Resources	Office VERNAL FIELD OFFICE	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

CONDITIONS OF APPROVAL ATTACHED

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

NOTICE OF APPROVAL

UDOGM

Electronic Submission #73727 verified by the BLM Well Information System  
For KERRMCGEE OIL&GAS ONSHORE LP, sent to the Vernal  
Committed to AFMSS for processing by ROBIN R. HANSEN on 08/28/2009 ()

RECEIVED

JUL 11 2011

DIV. OF OIL, GAS & MINING

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

**Additional Operator Remarks:**

The Ute Tribe is the surface owner of this well.

The filing fee check for this well will be submitted separately via overnight delivery on 08/31/09.

Please contact Danielle Piernot at 720-929-6156, or via e-mail at [danielle.piernot@anadarko.com](mailto:danielle.piernot@anadarko.com) with any questions and/or concerns regarding this APD.

Thank you for your assistance and time on this APD.



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



**CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL**

Company:	Kerr McGee Oil & Gas Onshore	Location:	SESE, Sec. 18, T9S, R21E
Well No:	NBU 921-18P	Lease No:	UTU-0575
API No:	43-047-50703	Agreement:	Natural Buttes Unit

OFFICE NUMBER: (435) 781-4400

OFFICE FAX NUMBER: (435) 781-3420

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

**NOTIFICATION REQUIREMENTS**

Construction Activity (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	- The Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist shall be notified at least 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday.
Construction Completion (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	- Upon completion of the pertinent APD/ROW construction, notify the Ute Tribe Energy & Minerals Dept. for a Tribal Technician to verify the Affidavit of Completion. Notify the BLM Environmental Scientist prior to moving on the drilling rig.
Spud Notice (Notify BLM Petroleum Engineer)	- Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify BLM Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:ut_vn_opreport@blm.gov">ut_vn_opreport@blm.gov</a> .
BOP & Related Equipment Tests (Notify BLM Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify BLM Petroleum Engineer)	- Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

***SURFACE USE PROGRAM  
CONDITIONS OF APPROVAL (COAs)***

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.

**SITE SPECIFIC COAs:**

- Paint new and old (existing) facilities “Shadow Gray.”
- Monitor by a permitted archaeologist during construction operations.
- Armor corners four (4) and six (6) to strengthen reserve pit walls.
- Use pit run or gravel for well pad and access road support.
- Construct low-water crossing on access road at ephemeral drainage.
- In accordance with the guidelines specified in the Utah BLM Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002 (See Appendix D), a raptor survey will take place during raptor nesting season (January 1 through September 30) and conduct is operations according to specifications in the guidelines. The BLM and USFWS recommend a 1/4-mile avoidance buffer from active great horned owl nests from February 1 to September 30.
- Conduct a new biological survey in accordance with the guidelines specified in the USFWS Rare Plant Conservation Measures for Uinta Basin hookless cactus and the 2008 BLM RMP ROD, in include a 300-foot buffer from the proposed construction operations (See Appendix D) and construct operation according to agency specification and the requirements of the BO issued as a result of Section seven (7) USFWS consultation.

**BIA Standard Conditions of Approval**

- Soil erosion will be mitigated by reseeding all disturbed areas.
- The gathering pipelines will be constructed to lie on the surface. The surface pipelines will not be bladed or cleared of vegetation. Where pipelines are constructed parallel to roads they may be welded on the road and then lifted from the road onto the right-of-way. Where pipelines do not parallel roads but cross-country between sites, they shall be welded in place at well sites or on access roads and then pulled between stations with a suitable piece of equipment. Traffic will be restricted along these areas so that the pipeline right-of-way will not be used as an access road.
- An open drilling system shall be used, unless otherwise specified in 10.0 Additional Stipulations of this document and in the Application for Permit to Drill. A closed drilling system shall be used in all flood plain areas, and other highly sensitive areas, recommended by the Ute Tribe Technician, BIA, and other agencies involved.



- The reserve pit shall be lined with a synthetic leak proof liner. After the drilling operation is complete, excess fluids shall be removed from the reserve pit and either hauled to an approved disposal site or shall be used to drill other wells. When the fluids are removed the pit shall be backfilled a minimum of 3.0' below the soil surface elevation.
- A closed production system shall be used. This means all produced water and oil field fluid wastes shall be contained in leak proof tanks. These fluids shall be disposed of in either approved injection wells or disposal pits.
- Major low water crossings will be armored with pit run material to protect them from erosion.
- All personnel shall refrain from collecting any paleontological fossils and from disturbing any fossil resources in the area.
- If fossils are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.
- Before the site is abandoned the company will be required to restore the right-of-way to near its original state. The disturbed area will be reseeded with desirable perennial vegetation. If necessary, the Bureau of Indian Affairs or Bureau of Land Management will provide a suitable seed mixture.
- Noxious weeds will be controlled on all surface disturbances within the project area. If noxious weeds spread from the project area onto adjoining land, the company will also be responsible for their control.
- If project construction operations are scheduled to occur after December 31, 2009, KMG shall conduct annual raptor surveys in accordance with the guidelines specified in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002. If active raptor nest are indentified during a new survey, KMG shall conduct its operations according to the seasonal restrictions detailed in the Uinta basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Guidelines (See Appendix D).
- USFWS threatened and endangered plant and animal conservation measures will be followed, as appropriate to the species identified by the biological resource survey (See Appendix D).
- All personnel shall refrain from collecting artifacts and from disturbing any significant cultural resources in the area.
- If artifacts or any culturally sensitive materials are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.

***DOWNHOLE PROGRAM  
CONDITIONS OF APPROVAL (COAs)***

**SITE SPECIFIC DOWNHOLE COAs:**

- A copy of Kerr McGee's Standard Operating Practices (SOP version: dated 7/17/08 and approved 7/28/08) shall be on location.
- A variance is granted to the operators APD request to not conduct a pressure integrity test (also known as a formation integrity test -FIT), covering 5M BOPE systems, as covered in Onshore Order #2 Drilling Operations III. B. i. "pressure integrity test of each casing shoe".

**All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to.** The following items are emphasized:

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**

- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

## **OPERATING REQUIREMENT REMINDERS:**

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at [www.ONRR.gov](http://www.ONRR.gov).
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18P
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 1080 FSL 0197 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 18 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047507030000
<b>PHONE NUMBER:</b> 720 929-6515 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 8/22/2011	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:			
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:			
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:			

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  
  
 Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.

Approved by the  
Utah Division of  
Oil, Gas and Mining

Date: 08/22/2011

By:

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 8/22/2011	



## The Utah Division of Oil, Gas, and Mining

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

### Request for Permit Extension Validation Well Number 43047507030000

**API:** 43047507030000

**Well Name:** NBU 921-18P

**Location:** 1080 FSL 0197 FEL QTR SESE SEC 18 TWP 090S RNG 210E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 9/1/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☐ Yes ☒ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

**Signature:** Andy Lytle

**Date:** 8/22/2011

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**RECEIVED** Aug. 22, 2011

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18P			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1080 FSL 0197 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 18 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047507030000			
<b>PHONE NUMBER:</b> 720 929-6515 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 10/20/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input checked="" type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <span style="border: 1px solid black; display: inline-block; width: 100px; height: 15px; vertical-align: middle;"></span> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <span style="border: 1px solid black; display: inline-block; width: 100px; height: 15px; vertical-align: middle;"></span>
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<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> The operator requests approval for changes in the drilling operations for this well. Changes include deepening to the Blackhawk formation, which is part of the Mesaverde formation, closed loop drilling options and casing changes. Please see attachment for details. Thank you.					
<b>Approved by the Utah Division of Oil, Gas and Mining</b>  <b>Date:</b> 11/01/2011 <b>By:</b>					
<b>NAME (PLEASE PRINT)</b> Danielle Piernot		<b>PHONE NUMBER</b> 720 929-6156			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
<b>DATE</b> 10/20/2011					



NBU 921-18P

Drilling Program  
1 of 7**Kerr-McGee Oil & Gas Onshore. L.P.**

**NBU 921-18P**

Surface:      1080 FSL / 197 FEL      SESE

Section 18 T9S R21E

Unitah County, Utah  
Mineral Lease: UTU-0575

**ONSHORE ORDER NO. 1****DRILLING PROGRAM**

1. & 2.    **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,765'	
Birds Nest	2,035'	Water
Mahogany	2,539'	Water
Wasatch	5,147'	Gas
Mesaverde	8,195'	Gas
Sego	10,498'	Gas
Castlegate	10,596'	Gas
MN5	10,934'	Gas
TD	11,335'	

3.    **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Drilling Program

4.    **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

5.    **Drilling Fluids Program:**

Please refer to the attached Drilling Program

**6. Evaluation Program:**

Please refer to the attached Drilling Program

**7. Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 11534' TVD, approximately equals  
7,612 psi (0.66 psi/ft = actual bottomhole gradient)

---

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 5,128 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

---

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-  
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

**8. Anticipated Starting Dates:**

Drilling is planned to commence immediately upon approval of this application.

**9. Variances:**

Please refer to the attached Drilling Program.

Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

**Background**

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

**Variance for BOPE Requirements**

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

**Variance for Mud Material Requirements**

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

**Variance for Special Drilling Operation (surface equipment placement) Requirements**

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

**Variance for FIT Requirements**

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

**Conclusion**

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

**10. Other Information:**

Please refer to the attached Drilling Program.





# KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	October 20, 2011		
WELL NAME	NBU 921-18P					TD	11,534'	TVD	11,335' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION		4,862'
SURFACE LOCATION	SESE	1080 FSL	197 FEL	Sec 18	T 9S	R 21E			
	Latitude:	40.031803	Longitude:	-109.585745		NAD 83			
OBJECTIVE ZONE(S)	BLACKHAWK								
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), Ute Tribe (Surface), UDOGM Tri-County Health Dept.								

GEOLOGICAL			MECHANICAL			
LOGS	FORMATION	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT	
		40'		14"		
<p>All water flows encountered while drilling will be reported to the appropriate agencies.</p> <p>Green River @ 1,765'</p> <p>Top of Birds Nest @ 2,035'</p> <p>Mahogany @ 2,539'</p> <p>Preset f/ GL @ 2,990' TVD</p> <p>Note: 11" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the acutal depth of the loss zone.</p> <p>Wasatch @ 5,147'</p> <p>Mud logging program TBD</p> <p>Cased hole logging program from TD - surf csg</p> <p>Mverde @ 8,195' TVD</p> <p>Sego @ 10,498' TVD</p> <p>Castlegate @ 10,596' TVD</p> <p>MN5 @ 10,934' TVD</p> <p>Max anticipated Mud required 11,534' TVD</p> <p>TD @ 11,335' MD</p>			12 1/4"	8-5/8", 28#, IJ-55, LTC	Air mist	
			200'			
			11'		8-5/8", 28#, IJ-55, LTC	Air mist
				7-7/8"	4-1/2" 11.6# HCP-110 Ultra DQX/LTC csg	Water / Fresh Water Mud 8.3-13.0 ppg

**RECEIVED** Oct. 20, 2011



## KERR-McGEE OIL & GAS ONSHORE LP

### DRILLING PROGRAM

**CASING PROGRAM**

						DESIGN FACTORS			
						LTC		DQX	
	SIZE	INTERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'							
							3,390	1,880	348,000
SURFACE	8-5/8"	0	to 2,990	28.00	IJ-55	LTC	1.80	1.34	4.75
							10,690	8,650	279,000
PRODUCTION	4-1/2"	0	to 5,000	11.60	HCP-110	DQX	1.19	1.11	3.48
	4-1/2"	5,000	to 11,335'	11.60	HCP-110	LTC	1.19	1.11	4.74

**Surface Casing:**

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
			+ 0.25 pps flocele				
Option 1	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE			<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>				
Option 2	LEAD	2,490'	65/35 Poz + 6% Gel + 10 pps gilsonite	230	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,645'	Premium Lite II +0.25 pps	360	35%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,690'	50/50 Poz/G + 10% salt + 2% gel	1,580	35%	14.30	1.31
			+ 0.1% R-3				

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

**ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

**DRILLING ENGINEER:**

Nick Spence / Emile Goodwin / Chad Loesel

DATE:

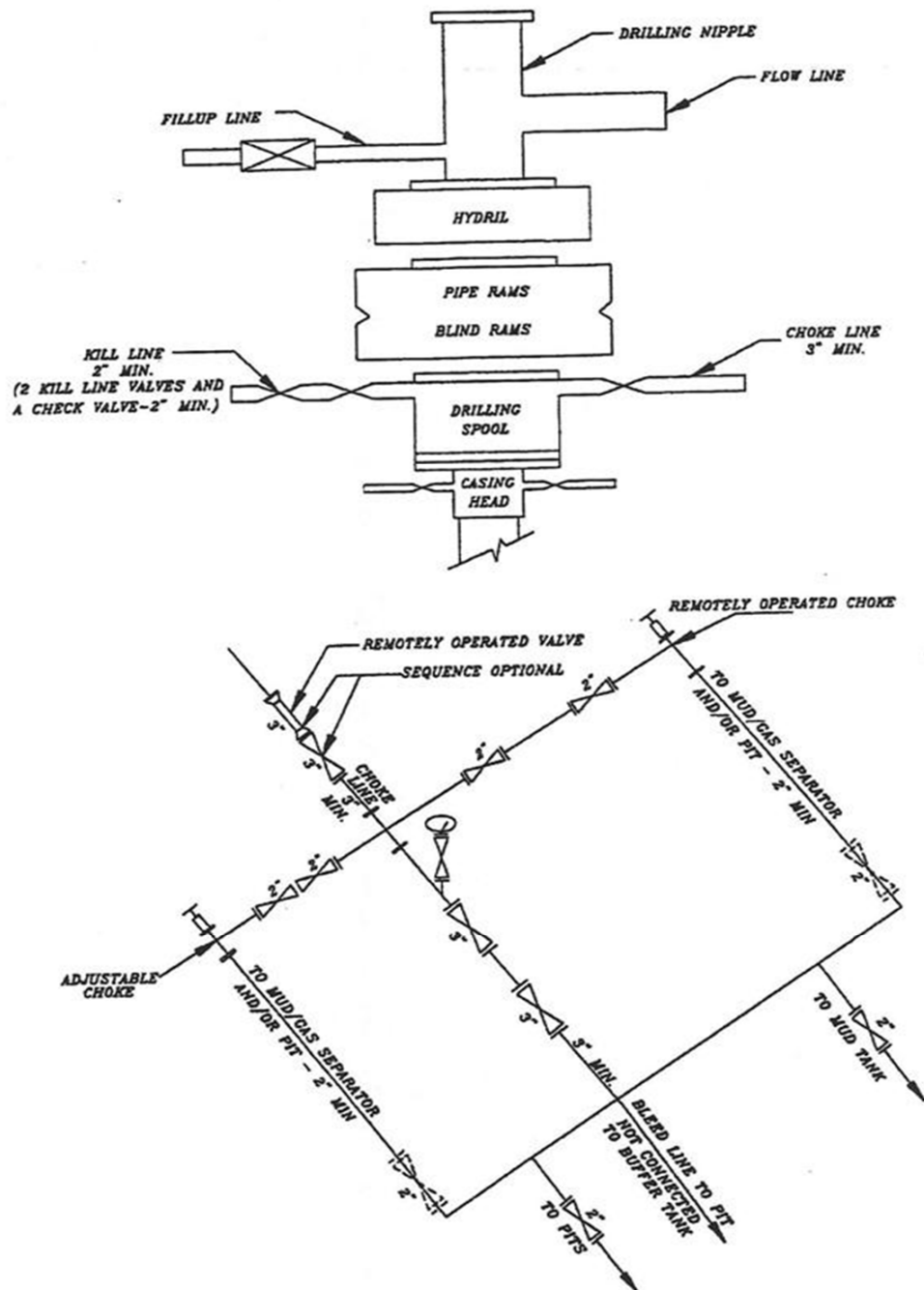
**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

DATE:

**RECEIVED** Oct. 20, 2011

NBU 921-18P

Drilling Program  
7 of 7**EXHIBIT A  
NBU 921-18P****SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

Requested Drilling Options:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18P
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1080 FSL 0197 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 18 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047507030000
<b>PHONE NUMBER:</b> 720 929-6515 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> <b>ACIDIZE</b>	
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> <b>ALTER CASING</b>	
<input checked="" type="checkbox"/> <b>SPUD REPORT</b> Date of Spud: 11/14/2011	<input type="checkbox"/> <b>CASING REPAIR</b>	
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> <b>CHANGE TO PREVIOUS PLANS</b>	
	<input type="checkbox"/> <b>CHANGE TUBING</b>	
	<input type="checkbox"/> <b>CHANGE WELL STATUS</b>	
	<input type="checkbox"/> <b>COMMINGLE PRODUCING FORMATIONS</b>	
	<input type="checkbox"/> <b>DEEPEN</b>	
	<input type="checkbox"/> <b>FRACTURE TREAT</b>	
	<input type="checkbox"/> <b>OPERATOR CHANGE</b>	
	<input type="checkbox"/> <b>PLUG AND ABANDON</b>	
	<input type="checkbox"/> <b>PRODUCTION START OR RESUME</b>	
	<input type="checkbox"/> <b>RECLAMATION OF WELL SITE</b>	
	<input type="checkbox"/> <b>REPERFORATE CURRENT FORMATION</b>	
	<input type="checkbox"/> <b>SIDETRACK TO REPAIR WELL</b>	
	<input type="checkbox"/> <b>TUBING REPAIR</b>	
	<input type="checkbox"/> <b>VENT OR FLARE</b>	
	<input type="checkbox"/> <b>WATER SHUTOFF</b>	
	<input type="checkbox"/> <b>SI TA STATUS EXTENSION</b>	
	<input type="checkbox"/> <b>WILDCAT WELL DETERMINATION</b>	
	<input type="checkbox"/> <b>OTHER:</b> <input style="width: 100px;" type="text"/>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON 11/14/2011 AT 0800 HRS.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 11/16/2011	



## BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# CAPSTAR #310  
Submitted By SHEILA WOPSOCK Phone Number 435.781.7024  
Well Name/Number NBU 921-18P  
Qtr/Qtr SE/SE Section 18 Township 9S Range 21E  
Lease Serial Number UTU-0575  
API Number 4304750703

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 11/14/2011 0800 HRS AM ☒ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☒ Surface Casing  
☐ Intermediate Casing  
☐ Production Casing  
☐ Liner  
☐ Other

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NOV 15 2011

DIV. OF OIL, GAS &amp; MINING

Date/Time 11/22/2011 0800 HRS AM ☒ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point  
☐ BOPE test at intermediate casing point  
☐ 30 day BOPE test  
☐ Other

Date/Time \_\_\_\_\_ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT  
LOVEL YOUNG AT 435.781.7051 FOR MORE

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575
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<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES		<b>COUNTY:</b> UINTAH
<b>STATE:</b> UTAH		
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 11/26/2011	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> ALTER CASING	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> MIRU AIR RIG ON NOV. 23, 2011. DRILLED SURFACE HOLE TO 2820'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.		
<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 11/28/2011	

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

**ENTITY ACTION FORM**

Operator: KERR McGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
Address: 1368 SOUTH 1200 EAST  
city VERNAL  
state UT zip 84078 Phone Number: (435) 781-7024

**Well 1**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750703	NBU 921-18P		SESE	18	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
B	99999	2900	11/14/2011		11/30/11		
Comments: MIRU PETE MARTIN BUCKET RIG. BLK HK = MVRD = WSMVD SPUD WELL ON 11/14/2011 AT 0800 HRS.							

**Well 2**

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

**Well 3**

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

**ACTION CODES:**

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

SHEILA WOPSOCK

Name (Please Print)

Signature

REGULATORY ANALYST

Title

11/16/2011

Date

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NOV 15 2011

DIV. OF OIL, GAS & MINING

## State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# PIONEER 54  
Submitted By STUART NEILSON Phone Number 435-790-2921  
Well Name/Number NBU 921-18P  
Qtr/Qtr SE/4 SE/4 Section 18 Township 9S Range 21  
Lease Serial Number UTU 0575  
API Number 4304750703

Casing – Time casing run starts, not cementing times.

- ☐ Production Casing  
☐ Other

Date/Time \_ \_ AM ☐ PM ☐

**RECEIVED**

DEC 21 2011

DIV. OF OIL, GAS & MINING

### BOPE

- ☒ Initial BOPE test at surface casing point  
☐ Other

Date/Time 12/21/11 6 AM ☒ PM ☐

### Rig Move

Location To:

Date/Time \_ \_ AM ☐ PM ☐

Remarks

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18P
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1080 FSL 0197 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 18 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047507030000
<b>10. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES		<b>COUNTY:</b> UINTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>STATE:</b> UTAH
<b>TYPE OF SUBMISSION</b>  <input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 1/2/2012	<b>TYPE OF ACTION</b>  <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <input style="width: 100px;" type="text"/> </div> </div>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> MIRU ROTARY RIG. FINISHED DRILLING FROM 2820' TO 11,547' ON DEC. 29, 2011. RAN 4-1/2" 11.6# P-110 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED PIONEER RIG 54 ON JAN, 2, 2012 @ 00:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.		
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske		<b>PHONE NUMBER</b> 720 929-6304
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst
<b>DATE</b> 1/4/2012		<b>FOR RECORD ONLY</b> 01/04/2012



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18P
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1080 FSL 0197 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 18 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047507030000
<b>PHONE NUMBER:</b> 720 929-6514		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 1/30/2012	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input checked="" type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 01/30/2012 AT 1730 HRS. THE CHONROLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> February 08, 2012		
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 2/7/2012	

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Dry <input type="checkbox"/> Other			5. Lease Serial No. UTU0575		
b. Type of Completion <input checked="" type="checkbox"/> New Well <input type="checkbox"/> Work Over <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Diff. Resvr. Other _____			6. If Indian, Allottee or Tribe Name		
2. Name of Operator KERR MCGEE OIL & GAS ONSHORE, Mail: JAIME L. SCHARNOWSKE Contact: JAIME L. SCHARNOWSKE Email: JAIME.SCHARNOWSKE@ANADARKO.COM			7. Unit or CA Agreement Name and No. UTU63047A		
3. Address PO BOX 173779 DENVER, CO 80217		3a. Phone No. (include area code) Ph: 720-929-6304		8. Lease Name and Well No. NBU 921-18P	
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At surface SESE 1080FSL 197FEL 40.031803 N Lat, 109.585745 W Lon At top prod interval reported below SESE 1080FSL 197FEL 40.031803 N Lat, 109.585745 W Lon At total depth SESE 1080FSL 197FEL 40.031803 N Lat, 109.585745 W Lon BHL by HSM				9. API Well No. 43-047-50703	
14. Date Spudded 11/14/2011		15. Date T.D. Reached 12/29/2011		10. Field and Pool, or Exploratory NATURAL BUTTES	
16. Date Completed <input type="checkbox"/> D & A <input checked="" type="checkbox"/> Ready to Prod. 01/30/2012		17. Elevations (DF, KB, RT, GL)* 4862 GL		11. Sec., T., R., M., or Block and Survey or Area Sec 18 T9S R21E Mer SLB	
18. Total Depth: MD 11547 TVD 11545		19. Plug Back T.D.: MD 11083 TVD 11081		12. County or Parish UINTAH	
20. Depth Bridge Plug Set: MD TVD		13. State UT		17. Elevations (DF, KB, RT, GL)* 4862 GL	
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) <input checked="" type="checkbox"/> HDIL/ZDL/CNGR <input checked="" type="checkbox"/> RCBL/GP				22. Was well cored? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Was DST run? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Directional Survey? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis)	

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
11.000	8.625 IJ-55	28.0	0	2790		655		0	
7.875	4.500 P-110	11.6	0	11517		2212		300	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	11118							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESAVERDE	8725	11384	8725 TO 11384	0.360	195	OPEN
B)						
C)						
D)						

26. Perforation Record

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
8725 TO 11384	PUMP 14,857 BBLs SLICK H2O & 351,851 LBS 30/50 OTTAWA SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
01/30/2012	01/07/2012	24	→	0.0	4015.0	384.0			FLows FROM WELL
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
20/64	SI	4605	→	0	4015	384		PGW	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
	SI		→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #132161 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

RECEIVED  
MAR 13 2012

BLM OIL, GAS & MINING

## 28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

## 28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

29. Disposition of Gas(Sold, used for fuel, vented, etc.)  
SOLD

## 30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				GREEN RIVER BIRD'S NEST MAHOGANY WASATCH MESAVERDE	1782 1990 2553 5162 8143

## 32. Additional remarks (include plugging procedure):

The first 210' of the surface hole was drilled with a 12 ?? bit. The remainder of surface hole was drilled with an 11? bit. DQX csg was run from surface to 5537?; LTC csg was run from 5537? to 11,517?.

Attached is the chronological well history, perforation report & final survey.

## 33. Circle enclosed attachments:

- |   |                    |               |                       |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.)     | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis   | 7. Other:     |                       |

## 34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #132161 Verified by the BLM Well Information System.  
For KERR MCGEE OIL & GAS ONSHORE,L, sent to the Vernal

Name (please print) JAIME L. SCHARNOWSKE

Title REGULATORY ANALYST

Signature \_\_\_\_\_ (Electronic Submission)

Date 03/05/2012

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18P

Spud Date: 11/24/2011

Project: UTAH-UINTAH

Site: NBU 921-18P

Rig Name No: PROPETRO 11/11, PIONEER 54/54

Event: DRILLING

Start Date: 11/10/2011

End Date: 1/2/2012

Active Datum: RKB @4,880.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/18/0/0/26/PM/S/1080/E/0/197/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/23/2011	10:00 - 0:00	14.00	DRLSUR	01	A	P		MOVE RIG TO NBU 921-18P (WELL 1 OF 1 . INSTALL DIVERTOR HEAD AND BOUY LINE. BUILD DITCH. SPOT IN RIG. SPOT IN CATWALK AND PIPE RACKS. RIG UP PIT PUMP. RIG UP PUMP. PRIME PUMP. INSPECT RIG. HELD PRE-SPUD SAFETY MEETING.
11/24/2011	0:00 - 2:30	2.50	DRLSUR	01	B	P		RIG UP TO SPUD
	2:30 - 5:30	3.00	DRLSUR	08	B	Z		REPLACE SWABS IN PUMP
	5:30 - 6:30	1.00	DRLSUR	02	D	P		SPUD, DRILL 12.25" T/210'
	6:30 - 7:00	0.50	DRLSUR	06	A	P		TOOH, LD 12.25" BIT/BHA
	7:00 - 10:30	3.50	DRLSUR	06	A	P		PU 11.00" BIT/DIR TOOLS TIH
11/25/2011	10:30 - 0:00	13.50	DRLSUR	02	D	P		DRILL 11" SECTION F/210 T/1840'
	0:00 - 1:00	1.00	DRLSUR	02	D	P		FRILL F1840' T/1900'
	1:00 - 2:30	1.50	DRLSUR	06	H	Z		PULL 10 STANDS, TOOL FAILURE, TOOL NOT COMMUNICATING
	2:30 - 7:00	4.50	DRLSUR	06	H	Z		TIH 10 STANDS ATER REESTABLISHING TOOL COMMUNICATION. DRILL STRING PLUGGED OFF. TOOH, LDDS, INSPECT MOTOR. ACTUAL BEARING FAILURE, MOTOR PLUGGED OFF. RIG DOWN BAD MOTOR, RIG UP SPARE 1.5 MOTOR.
	7:00 - 9:00	2.00	DRLSUR	21	D	Z		MOTOR FROZE UP, THAW OUT MOTOR
11/26/2011	9:00 - 13:00	4.00	DRLSUR	06	A	P		TIH T/1600', SURVEY
	13:00 - 13:30	0.50	DRLSUR	06	A	P		FINISH TIH, START DRILLING AT 1900'
	13:30 - 23:30	10.00	DRLSUR	02	D	P		DRILL F/1900' T/2770', RPM 45, WOB 25, 1900/1700 ON/OFF BTM. 81/78/81 UP DOWN ROT
	23:30 - 0:00	0.50	DRLSUR	08	A	Z		PU OFF BOTTOM 1 STAND, REPAIR KELLY HOSE
	0:00 - 1:30	1.50	DRLSUR	08	A	Z		REPLACE KELLY HOSE
	1:30 - 6:00	4.50	DRLSUR	02	D	P		DRILL F/2575' TO 2820'. TD
	6:00 - 7:30	1.50	DRLSUR	05	C	P		CIRC PRIOR TO POOH
	7:30 - 12:00	4.50	DRLSUR	06	D	P		POOH, LDDS, BHA & DIR. TOOLS
	12:00 - 13:00	1.00	DRLSUR	12	A	P		MOVE PIPE RACKS AND CATWALK. PULL DIVERTER HEAD. RIG UP TO RUN CSG. AND MOVE CSG INTO POSITION TO P/U.
	13:00 - 17:00	4.00	DRLSUR	12	C	P		RUN 63 JTS 8 5/8, 28# CSNG. LAND CSNG @ 16:30, SHOE SET @2776', BAFFLE SET @ 2730'
	17:00 - 17:30	0.50	DRLSUR	12	A	P		HOLD SAFETY MEETING, RUN 200' OF 1". RIG DOWN RIG MOVE OFF WELL, REBUILD DITCH. RIG UP CEMENT TRUCK, 2" HARD LINES. CEMENT HEAD, LOAD PLUG.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18P

Spud Date: 11/24/2011

Project: UTAH-UINTAH

Site: NBU 921-18P

Rig Name No: PROPETRO 11/11, PIONEER 54/54

Event: DRILLING

Start Date: 11/10/2011

End Date: 1/2/2012

Active Datum: RKB @4,880.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/18/0/0/26/PM/S/1080/E/0/197/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	17:30 - 21:30	4.00	DRLSUR	13	A	P		PRESSURE TEST LINES TO 2500 PSI. PUMP 30 BBLs OF WATER AHEAD. PUMP 20 BBLs OF 8.3# GEL WATER AHEAD. PUMP (230 SX) 156.4 BBLs OF 11.00# 3.82 YD 23 GAL/SK PREMIUM CEMENT W/18% GEL. 3% SALT, 3# PER SX GR3, .25# PER SX FLOCELE, 10# PER SX GILSONITE. PUMP 170 SX TAIL, 2% CACL, .25# PER SX FLOCELE. DROP PLUG ON FLY. DISPLACE W/ 167 BBLs OF H2O. FULL CIRC THROUGH OUT. FINAL LIFT OF 560 PSI AT 4 BBL/MIN. BUMP PLUG W/760 PSI HELD FOR 5 MIN. FLOAT HELD. PUMP (130 SX) 26.6 BBLs OF SAME TAIL CEMENT W/ 2% CALC. DOWN 1". SHUT DOWN AND CLEAN TRUCK. CEMENT TO SURFACE, FELL BACK, WAIT 2 HOURS, TOP OFF WITH 125 SX OF SAME TAIL CEMENT
12/19/2011	0:00 - 7:00	7.00	DRLPRO	01	E	P		RELEASE RIG
	7:00 - 18:00	11.00	DRLPRO	01	A	P		RDRT
	18:00 - 0:00	6.00	DRLPRO	21	C	P		MOVE RIG TO NBU 921-18P, 50 % MOVED, 50 % RIGGED UP, 5 BED, 6 HAUL TRUCKS, 2 FORKLIFTS
12/20/2011	0:00 - 7:00	7.00	DRLPRO	21	C	P		WAIT ON DAYLIGHT
	7:00 - 17:00	10.00	DRLPRO	01	A	P		WAIT ON DAYLIGHT
	17:00 - 0:00	7.00	DRLPRO	01	B	P		MOVE DERRICK & SUBS TO LOC, RURT, W/ WESTROC & J & C CRANE, 3 BED & 4 HAUL TRUCKS, 1 CRANE W/ 4 OILERS, TRUCKS RELEASED @ 16:00, CRANE @ 17:00
12/21/2011	0:00 - 1:30	1.50	DRLPRO	14	A	P		RURT
	1:30 - 3:30	2.00	DRLPRO	14	A			N/U BOPE
	3:30 - 12:30	9.00	DRLPRO	15	A	P		N/U STRATA EQUIPMENT
	12:30 - 15:00	2.50	DRLPRO	15	A	P		TEST RAM & ALL VALVES 250 LOW 5000 HIGH, ANN 2500, C/O HCR VALVE
	15:00 - 15:30	0.50	DRLPRO	15	A	P		TEST STRATA EQUIP TO 3000 PSI
	15:30 - 16:00	0.50	DRLPRO	14	B	P		TEST CASING TO 300 PSI F/ 30 MIN
	16:00 - 21:00	5.00	DRLPRO	06	A	P		INSTALL WEARBUSHING, PRE-SPUD INSPECTION
	21:00 - 21:30	0.50	DRLPRO	09	A	P		HPJSM W/ RIG, SDI & KIMZEY, R/U & P/U BIT #1, MM, DIR TOOLS & SCRIBE, P/U 30 HWDIP INSTALL
	21:30 - 23:00	1.50	DRLPRO	02	F	P		STRATA ROT HEAD, P/U D/P TAG CEMENT @ 2670', R/D KIMZEY
	23:00 - 0:00	1.00	DRLPRO	02	D	P		CUT & SLIP DRLG LINE, CHECK RIG FOR LEVEL & CENTER TOP DRIVE
								DRLG CEMENT F/E & OPEN TO 2834', FLOAT @ 2750', SHOE @ 2796
								DRLG F/ 2834' TO 2890', 56' @ 56' PH
								WOB / 18, RPM 60
								SPM 190 - GPM 557
								MW 8.6, VIS 28
								TRQ ON/OFF = 8-4 K
								PSI ON /OFF =1400-1100 , DIFF 250-500
								PU/SO/RT = 100-90-95
								SLIDE =
								ROT = 100%
								STRATA - OFF LINE
								0 CONN FLARE, 0 B/G FLARE
								26.5' S OF TARGET CENTER



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18P

Spud Date: 11/24/2011

Project: UTAH-UINTAH

Site: NBU 921-18P

Rig Name No: PROPETRO 11/11, PIONEER 54/54

Event: DRILLING

Start Date: 11/10/2011

End Date: 1/2/2012

Active Datum: RKB @4,880.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/18/0/0/26/PM/S/1080/E/0/197/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
12/22/2011	0:00 - 15:30	15.50	DRLPRO	02	D	P		DRLG F/ 2890' TO 4563', 1673' @ 108' PH WOB / 18-20, RPM 60 SPM 190 - GPM 557 MW 8.6, VIS 28 TRQ ON/OFF = 4-6 K PSI ON /OFF =1500-1600 , DIFF 250-500 PU/SO/RT = 118-105-112 SLIDE = 300' IN 4 HRS @ 75' PH ROT = 1373' IN 11.5 HRS @ 119' PH STRATA - OFF LINE 0 CONN FLARE, 0 B/G FLARE 6.5 N & 3' W OF TARGET CENTER LUBRICATE RIG, FUNCTION HCR & ANN
	15:30 - 16:00	0.50	DRLPRO	07	A	P		
	16:00 - 0:00	8.00	DRLPRO	02	D	P		DRLG F/ 4563' TO 5324', 761' @ 95' PH WOB / 18-20, RPM 60 SPM 190 - GPM 557 MW 8.6, VIS 28 TRQ ON/OFF = 4-6 K PSI ON /OFF =1500-1600 , DIFF 250-500 PU/SO/RT = 130-120-125 SLIDE = 60' IN 1.25 HRS @ 48' PH ROT = 701' IN 6.75 HRS @ 104' PH STRATA - OFF LINE 0 CONN FLARE, 0 B/G FLARE 16' N & 2.55' E OF TARGET CENTER
12/23/2011	0:00 - 16:00	16.00	DRLPRO	02	D	P		DRLG F/ 5324' TO 6746', 1422' @ 89' PH WOB / 22-24, RPM 60 SPM 190 - GPM 557 MW 8.8, VIS 30 TRQ ON/OFF = 5-7 K PSI ON /OFF =1500-1800 , DIFF 250-500 PU/SO/RT = 130-120-125 SLIDE = 132' IN 2.08 HRS @ 63' PH ROT = 1290' IN 13.92 HRS @ 93' PH STRATA - OFF LINE 0 CONN FLARE, 0 B/G FLARE 18' N & 8' W OF TARGET CENTER LUBRICATE RIG, FUNCTION HCR & ANN
	16:00 - 16:30	0.50	DRLPRO	07	A	P		
	16:30 - 0:00	7.50	DRLPRO	02	D	P		DRLG F/ 6746' TO 7290', 544' @ 73' PH WOB / 22-24, RPM 60 SPM 190 - GPM 557 MW 9.0, VIS 33 TRQ ON/OFF = 5-7 K PSI ON /OFF =1500-1800 , DIFF 250-500 PU/SO/RT = 175-150-160 SLIDE = 30' IN .75 HRS @ 40' PH ROT = 514' IN 6.75 HRS @ 76' PH STRATA - OFF LINE 0 CONN FLARE, 0 B/G FLARE 6' N & 5' W OF TARGET CENTER

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18P

Spud Date: 11/24/2011

Project: UTAH-UINTAH

Site: NBU 921-18P

Rig Name No: PROPETRO 11/11, PIONEER 54/54

Event: DRILLING

Start Date: 11/10/2011

End Date: 1/2/2012

Active Datum: RKB @4,880.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/18/0/0/26/PM/S/1080/E/0/197/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
12/24/2011	0:00 - 16:30	16.50	DRLPRO	02	D	P		DRLG F/ 7290' TO 7978', 688' @ 42' PH WOB / 22-24, RPM 60 SPM 190 - GPM 557 MW 9.0, VIS 33 TRQ ON/OFF = 5-7 K PSI ON /OFF =1500-1800 , DIFF 250-500 PU/SO/RT = 175-150-160 SLIDE = 60' IN 1.92 HRS @ 31' PH ROT = 628' IN 14.58 HRS @ 43' PH STRATA - ON LINE 5' CONN FLARE, 0 B/G FLARE 5' N & 7' W OF TARGET CENTER
	16:30 - 17:00	0.50	DRLPRO	07	A	P		LUBRICATE RIG, FUNCTION HCR & ANN, BOP DRILL 70 SEC
	17:00 - 0:00	7.00	DRLPRO	02	D	P		DRLG F/ 7978' TO 8325', 347' @ 49' PH WOB / 22-24, RPM 60 SPM 190 - GPM 557 MW 9.2, VIS 33 TRQ ON/OFF = 5-7 K PSI ON /OFF =1500-1800 , DIFF 250-500 PU/SO/RT = 180-170-175 SLIDE = ROT = 100% STRATA - ON LINE 0 CONN FLARE, 0 B/G FLARE 2.5' N & 7' W OF TARGET CENTER
12/25/2011	0:00 - 12:00	12.00	DRLPRO	02	D	P		DRLG F/ 8325' TO 8833', 508' @ 42' PH WOB / 22-24, RPM 60 SPM 190 - GPM 557 MW 9.0, VIS 35 TRQ ON/OFF = 5-7 K PSI ON /OFF =1500-1800 , DIFF 250-500 PU/SO/RT = 180-170-175 SLIDE = ROT = 100% STRATA - ON LINE 0 CONN FLARE, 0 B/G FLARE 1' N & 5' W OF TARGET CENTER
	12:00 - 12:30	0.50	DRLPRO	21	D	Z		C/O STRATA ROTATING HEAD DUE TO AMOUNT OF FOOTAGE ON IT
	12:30 - 15:00	2.50	DRLPRO	02	D	P		DRLG F/ 8833' TO 8928', 95' @ 38' PH WOB / 22-24, RPM 60 SPM 190 - GPM 557 MW 9.0, VIS 35 TRQ ON/OFF = 5-7 K PSI ON /OFF =1500-1800 , DIFF 250-500 PU/SO/RT = 180-170-175 SLIDE = ROT = 100% STRATA - ON LINE 0 CONN FLARE, 0 B/G FLARE 1' N & 5' W OF TARGET CENTER
	15:00 - 15:30	0.50	DRLPRO	07	A	P		LUBRICATE RIG, FUNCTION HCR & ANN, BOP DRILL 70 SEC

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18P

Spud Date: 11/24/2011

Project: UTAH-UINTAH

Site: NBU 921-18P

Rig Name No: PROPETRO 11/11, PIONEER 54/54

Event: DRILLING

Start Date: 11/10/2011

End Date: 1/2/2012

Active Datum: RKB @4,880.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/18/0/0/26/PM/S/1080/E/0/197/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	15:30 - 0:00	8.50	DRLPRO	02	D	P		DRLG F/ 8928' TO 9268', 340' @ 40' PH WOB / 22-24, RPM 60 SPM 190 - GPM 557 MW 9.1, VIS 35 TRQ ON/OFF = 6-8 K PSI ON /OFF =1800-2100 , DIFF 250-500 PU/SO/RT = 200-180-190 SLIDE = 74' IN 3.08 HRS @ 24' PH ROT = 266' IN 5.42 HRS @ 49' PH STRATA - ON LINE 10 CONN FLARE, 5 B/G FLARE 1' N & 5' WOF TARGET CENTER
12/26/2011	0:00 - 14:30	14.50	DRLPRO	02	D	P		DRLG F/ 9268' TO 9782', 514' @ 35' PH WOB / 22-24, RPM 60 SPM 190 - GPM 557 MW 9.5, VIS 35 TRQ ON/OFF = 6-8 K PSI ON /OFF =1800-2100 , DIFF 250-500 PU/SO/RT = 200-180-190 SLIDE = 166' IN 6.75 HRS @ 24' PH ROT = 348' IN 7.75 HRS @ 45' PH STRATA - ON LINE 10 CONN FLARE, 5 B/G FLARE 6' N & 1' WOF TARGET CENTER
	14:30 - 15:00	0.50	DRLPRO	07	A	P		LUBRICATE RIG, FUNCTION HCR & ANN
	15:00 - 0:00	9.00	DRLPRO	02	D	P		DRLG F/ 9782' TO 10162', 380' @ 42' PH WOB / 22-24, RPM 60 SPM 190 - GPM 557 MW 9.5, VIS 35 TRQ ON/OFF = 6-8 K PSI ON /OFF =1800-2100 , DIFF 250-500 PU/SO/RT = 200-180-190 SLIDE = ROT = 100% STRATA - ON LINE 15-20 CONN FLARE, 5-10 B/G FLARE 8.5' N & 2.5' E OF TARGET CENTER
12/27/2011	0:00 - 16:00	16.00	DRLPRO	02	D	P		DRLG F/ 10162' TO 10637', 475' @ 29' PH WOB / 22-24, RPM 60 SPM 190 - GPM 557 MW 10.0, VIS 40 TRQ ON/OFF = 6-8 K PSI ON /OFF =1800-2100 , DIFF 250-500 PU/SO/RT = 225-195-205 SLIDE = ROT = 100% STRATA - ON LINE 15-20 CONN FLARE, 5-10 B/G FLARE 14.5' N & 9' E OF TARGET CENTER
	16:00 - 16:30	0.50	DRLPRO	07	A	P		LUBRICATE RIG, FUNCTION HCR & ANN, BOP DRILL 68 SEC

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18P

Spud Date: 11/24/2011

Project: UTAH-UINTAH

Site: NBU 921-18P

Rig Name No: PROPETRO 11/11, PIONEER 54/54

Event: DRILLING

Start Date: 11/10/2011

End Date: 1/2/2012

Active Datum: RKB @4,880.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/18/0/0/26/PM/S/1080/E/0/197/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
12/28/2011	16:30 - 20:00	3.50	DRLPRO	02	D	P		DRLG F/ 10637' TO 10711', 74' @ 21' PH WOB / 22-24, RPM 60 SPM 190 - GPM 557 MW 10.0, VIS 40 TRQ ON/OFF = 6-8 K PSI ON /OFF = 1800-2100 , DIFF 250-500 PU/SO/RT = 225-195-205 SLIDE = ROT = 100% STRATA - ON LINE 15-20 CONN FLARE, 5-10 B/G FLARE 14.5' N & 9' E OF TARGET CENTER
	20:00 - 0:00	4.00	DRLPRO	06	A	P		BUILD & SPOT 75 BBL, 12.0 PPG PILL ON BOTTOM, TFNB & MM, TIGHT @ 6000' - 4300', WORK CLEAN
	0:00 - 8:00	8.00	DRLPRO	06	A	P		TFNB & MM, C/O BHA 1
	8:00 - 8:30	0.50	DRLPRO	07	A	P		LUBRICATE RIG, FUNCTION HCR & ANN
	8:30 - 17:30	9.00	DRLPRO	06	A	P		TIH, WASH AND REAM 4000'-6000', CIRC OUT TRIP GAS, 20'-50' FLARE, BROUGHT MW UP TO 11
12/29/2011	17:30 - 0:00	6.50	DRLPRO	02	D	P		DRLG F/ 10711' TO 10895', 184' @ 28' PH WOB / 15-22, RPM 50-60 SPM 190 - GPM 557 MW 11, VIS 40 TRQ ON/OFF = 6-8 K PSI ON /OFF = 2500-2700, DIFF 250-500 PU/SO/RT = 225-195-205 SLIDE = ROT = 100% STRATA - ON LINE 5 CONN FLARE, 0-5 B/G FLARE 14.5' N & 9' E OF TARGET CENTER
	0:00 - 14:30	14.50	DRLPRO	02	D	P		DRLG F/ 10895' TO 11397', 502' @ 34' PH WOB / 24, RPM 60 SPM 190 - GPM 557 MW 11, VIS 40 TRQ ON/OFF = 6-8 K PSI ON /OFF = 2500-2700, DIFF 250-500 PU/SO/RT = 225-195-180 SLIDE = ROT = 100% STRATA - ON LINE 5 CONN FLARE, 0-5 B/G FLARE 34.5' S & 21.5' E OF TARGET CENTER
	14:30 - 15:00	0.50	DRLPRO	07	A	P		LUBRICATE RIG, FUNCTION HCR & ANN
	15:00 - 19:00	4.00	DRLPRO	02	D	P		DRLG F/ 11397' TO 11547', 150' @ 37' PH WOB / 24, RPM 60 SPM 190 - GPM 557 MW 11, VIS 40 TRQ ON/OFF = 6-8 K PSI ON /OFF = 2500-2700, DIFF 250-500 PU/SO/RT = 225-195-180 SLIDE = ROT = 100% STRATA - ON LINE 5 CONN FLARE, 0-5 B/G FLARE 41' S & 21' E OF TARGET CENTER



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18P

Spud Date: 11/24/2011

Project: UTAH-UINTAH

Site: NBU 921-18P

Rig Name No: PROPETRO 11/11, PIONEER 54/54

Event: DRILLING

Start Date: 11/10/2011

End Date: 1/2/2012

Active Datum: RKB @4,880.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/18/0/0/26/PM/S/1080/E/0/197/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
12/30/2011	19:00 - 21:30	2.50	DRLPRO	05	C	P		CIRC & COND, RAISE MW TO 11.8 PPG, PUMPED 2 HIGH VIS SWEEPS
	21:30 - 0:00	2.50	DRLPRO	06	E	P		POOH
	0:00 - 7:00	7.00	DRLPRO	06	E	P		WIPER TRIP TO SHOE AND BACK FOR LOGS
	7:00 - 12:00	5.00	DRLPRO	05	B	P		CIRC AND CONDITION HOLE, HEAVY FLUID AND CIRC LOSS, RAISE MW TO 11.8, HIGH VIS SWEEPS
	12:00 - 17:30	5.50	DRLPRO	06	B	P		POOH FOR LOGS
12/31/2011	17:30 - 22:00	4.50	DRLPRO	11	D	P		R/U AND JSA W/ BAKER ATLAS, RUN LOGS, BRIDGED OUT @ 7880', R/D
	22:00 - 0:00	2.00	DRLPRO	06	F	P		TIH TO WIPE THROUGH BRIDGE AND COME OUT SIDEWAYS
	0:00 - 5:00	5.00	DRLPRO	06	F	P		TIH TO WIPE THROUGH BRIDGE AND COME OUT SIDEWAYS
	5:00 - 10:30	5.50	DRLPRO	05	C	P		CIRC, HIGH VIS SWEEP, WAITING FOR KIMZEY
	10:30 - 17:30	7.00	DRLPRO	06	A	P		R/U KIMZEY L/D TRUCK, SAFETY MEETING, TOOH, L/D DRILL PIPE AND BHA
1/1/2012	17:30 - 18:00	0.50	DRLPRO	14	B	P		PULL WEAR BUSHING
	18:00 - 22:00	4.00	DRLPRO	11	D	P		R/U BAKER ATLAS, WIRELINE LOGS FROM 11543' TO 7880', R/D
	22:00 - 23:00	1.00	DRLPRO	12	A	P		R/U KIMZEY CASING EQUIP
	23:00 - 0:00	1.00	DRLPRO	12	C	P		RUN CASING
	0:00 - 7:00	7.00	DRLPRO	12	C	P		RUN 4.5" PROD CASING, R/D CASING CREW
	7:00 - 9:00	2.00	DRLPRO	05	D	P		CIRC OUT GAS PRIOR TO CEMENT
	9:00 - 10:30	1.50	DRLPRO	12	B	P		RIG UP BAKER ATLAS, HPJSM W/ RIG & CEMENTING CREWS
	10:30 - 15:00	4.50	DRLPRO	12	E	P		R/U & PSI TEST LINES TO 5000 PSI, PUMP 25 BBLS WATER SPACER, LEAD 612 SX 12.4 PPG 2.03 YLD, TAIL 1600 SXS 14.3 PPG 1.31 YLD, DISPLACE W/ 178 BBLS WATER, FULL RETURNS THOUGHOUT
	15:00 - 15:30	0.50	DRLPRO	14	B	P		JOB W/ 5 BBLS CEMENT TO PIT, BUMP PLUG 4400 PSI FOR 5 MIN, TOP & BOTTOM PLUG USED, FLOATS HELD, TOP TAIL @ 4600', R/D
	15:30 - 17:00	1.50	DRLPRO	14	A	P		SET C-22 SLIPS W/ 125 K
	17:00 - 0:00	7.00	DRLPRO	01	E	P		N/D BOPE, P/U STACK & MAKE ROUGH CUT
								N/D BOPE, CLEAN PITS, WINTERIZE RIG F/ MOVE, RELEASE RIG TO THE NBU 921-19E 1/2/12 00:00

## 1 General

### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	NBU 921-18P	Wellbore No.	OH
Well Name	NBU 921-18P	Wellbore Name	NBU 921-18P
Report No.	1	Report Date	1/26/2012
Project	UTAH-UINTAH	Site	NBU 921-18P
Rig Name/No.	GWS 1/1	Event	COMPLETION
Start Date	1/23/2012	End Date	
Spud Date	11/24/2011	Active Datum	RKB @4,880.00usft (above Mean Sea Level)
UWI	SE/SE/O/S/21/E/18/O/O/26/PM/S/108/O/E/O/197/O/O		

### 1.3 General

Contractor	SUPERIOR	Job Method	PERFORATE	Supervisor	BJ BRAITHWAITE
Perforated Assembly	PRODUCTION CASING	Conveyed Method	WIRELINE		

### 1.4 Initial Conditions

Fluid Type		Fluid Density	
Surface Press		Estimate Res Press	
TVD Fluid Top		Fluid Head	
Hydrostatic Press		Press Difference	
Balance Cond	NEUTRAL		

### 1.5 Summary

Gross Interval	8,725.0 (usft)-11,384.0 (usft)	Start Date/Time	1/26/2012 12:00AM
No. of Intervals	41	End Date/Time	1/26/2012 12:00AM
Total Shots	195	Net Perforation Interval	63.00 (usft)
Avg Shot Density	3.10 (shot/ft)	Final Surface Pressure	
		Final Press Date	

## 2 Intervals

### 2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/26/2012 12:00AM	MESA VERDE/			8,725.0	8,727.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/26/2012 12:00AM	MESA VERDE/			8,754.0	8,756.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			8,768.0	8,770.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			8,900.0	8,902.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			8,973.0	8,974.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			8,992.0	8,994.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,023.0	9,024.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,042.0	9,044.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,100.0	9,102.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,215.0	9,216.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,267.0	9,268.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,281.0	9,282.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,294.0	9,295.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,332.0	9,333.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,342.0	9,343.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,390.0	9,392.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,711.0	9,712.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,734.0	9,736.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,751.0	9,752.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,804.0	9,806.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,856.0	9,857.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			9,873.0	9,874.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/26/2012 12:00AM	MESA VERDE/			9,995.0	9,996.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			10,094.0	10,096.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			10,124.0	10,126.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			10,238.0	10,241.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			10,991.0	10,992.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			11,014.0	11,016.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			11,030.0	11,031.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			11,042.0	11,043.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			11,065.0	11,066.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			11,076.0	11,078.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			11,094.0	11,095.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			11,158.0	11,160.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			11,170.0	11,172.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			11,192.0	11,194.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			11,271.0	11,273.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			11,285.0	11,286.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			11,296.0	11,297.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			11,306.0	11,308.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/26/2012 12:00AM	MESA VERDE/			11,382.0	11,384.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

## 3 Plots



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18P

Spud Date: 11/24/2011

Project: UTAH-UINTAH

Site: NBU 921-18P

Rig Name No: GWS 1/1

Event: COMPLETION

Start Date: 1/23/2012

End Date:

Active Datum: RKB @4,880.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/18/0/0/26/PM/S/1080/E/0/197/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub- Code	P/U	MD From (usft)	Operation
11/24/2011	-							
1/12/2012	-							
1/23/2012	7:00 - 7:15	0.25	COMP	48		P		HSM, SLIPS, TRIPS & FALLS, PU TBG
	7:15 - 15:00	7.75	COMP	31	I	P		MIRU, SPOT EQUIP, ND WH, NU BOP, RU FLOOR & TBG EQUIP, RU HTR & HOSES & TARPS, SPOT TBG TRAILER INSTAL HAND RAILS ON TRAILER, P/U TBG, REMOVE THREAD PROTECTORS, TALLY & DRIFT 234 JTS L-80 TBG, SWI, SDFN.
1/24/2012	7:00 - 7:15	0.25	COMP	48		P		HSM, SLIPS, TRIPS & FALLS, POOH W/ TBG
	7:15 - 15:00	7.75	COMP	31	I	P		FINISH P/U TBG, POOH, ND BOP, NU FRAC VALVE, SWI, SDFN.
1/25/2012	7:00 - 7:15	0.25	COMP	48		P		HSM, SLIPS, TRIPS & FALLS, PRESS TESTING
	7:15 - 15:00	7.75	COMP	33	C	P		MIRU B & C QUICK TEST, PRESS TEST 4 1/2" CSG & FRAC VALVE'S, SURFACE CSG VALVE OPEN & LOCKED. FILL SURFACE CSG & 4 1/2" CSG. PRESS TEST CSG & FRAC VALVE'S TO 1,000 PSI. HELD FOR 15 MIN LOST 10 PSI. PRESS TEST CSG & FRAC VALVE'S TO 3,500 PSI. HELD FOR 15 MIN LOST 12.5 PSI. PRESS TEST CSG & FRAC VALVE'S TO 9,000 PSI. HELD FOR 30 MIN LOST 127.5 PSI. NO COMMUNICATION WITH SURFACE CSG, RDMO B & C QUICK TEST.
								MIRU JW WIRELINE, PERF STG 1) PU 3 1/8 EXP GUN, 23 GRM, .36 HOLE SIZE, 120 DEG PHASING, RIH PERF AS PER DESIGN (MISS RUN), POOH, REBUILD GUNS, RIH PERF AS PER DESIGN, POOH, PREP TO FRAC IN AM, SWI, SDFN.
1/26/2012	7:00 - 7:15	0.25	COMP	48		P		HSM, SLIPS, TRIPS & FALLS, WIRELINE & FRACING
	7:15 - 9:30	2.25	COMP	46	F	P		WAIT ON SUPERIOR FRAC CREW.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18P

Spud Date: 11/24/2011

Project: UTAH-UINTAH

Site: NBU 921-18P

Rig Name No: GWS 1/1

Event: COMPLETION

Start Date: 1/23/2012

End Date:

Active Datum: RKB @4,880.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/18/0/0/26/PM/S/1080/E/0/197/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	9:30 - 19:00	9.50	COMP	36	E	P		<p>MIRU SUPERIOR, PRIME UP PUMPS &amp; PRESS TEST LINES TO 9,350 PSI, LOST 250 PSI, NO VISIBLE LEAKS, MANUAL POPOFF SET @ 9,000 PSI.</p> <p>FRAC STG 1) WHP 1,873 PSI, BRK 4,452 PSI @ 6.7 BPM, ISIP 3,740 PSI, FG .77. CALC PERFS OPEN INJ RATE 47.2 BPM @ 7,129 PSI = 20/24 HOLES OPEN 85%. ISIP 4,069 PSI, FG .80, NPI 329 PSI. MP 8,246 PSI, MR 51.5 BPM, AP 7,052 PSI, AR 48.1 BPM, PUMPED 30/50 LTC SAND. SWI, X-OVER FOR WL.</p> <p>PERF STG 2) PU 4 1/2" 10K HAL CBP &amp; 3 1/8 EXP GUN, 23 GRM, .36 HOLE SIZE. 90 DEG PHASING, RIH SET 10K CBP @ 11,224' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 2) WHP 3,413 PSI, BRK 5,493 PSI @ 3.9 BPM, ISIP 3,989 PSI, FG .80. CALC PERFS OPEN INJ RATE 48.6 BPM @ 8,028 PSI = 18/24 HOLES OPEN 74%. ISIP 4,056 PSI, FG .80, NPI 57 PSI. MP 8,167 PSI, MR 50.7 BPM, AP 7,507 PSI, AR 49.8 BPM, PUMPED 30/50 LTC SAND. SWI, X-OVER FOR WL.</p> <p>PERF STG 3) PU 4 1/2" 10K HAL CBP &amp; 3 1/8 EXP GUN, 23 GRM, .36 HOLE SIZE. 120 DEG PHASING, RIH SET 10K CBP @ 11,125' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 3) WHP 3,255 PSI, BRK 4,500 PSI @ 5.4 BPM, ISIP 4,042 PSI, FG .80. CALC PERFS OPEN INJ RATE 52.5 BPM @ 8,111 PSI = 20/27 HOLES OPEN 74%. ISIP 4,083 PSI, FG .81, NPI 41 PSI. MP 8,657 PSI, MR 52.5 BPM, AP 7,247 PSI, AR 50.2 BPM, PRESS CLIMBING TRYING TO SCREEN OUT HAD TO CUT SAND SHORT. PUMPED 30/50 LTC SAND. SWI, SDFN. HSM, SLIPS, TRIPS &amp; FALLS, PERF &amp; FRAC</p>
1/27/2012	6:30 - 6:45	0.25	COMP	48		P		

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18P

Spud Date: 11/24/2011

Project: UTAH-UINTAH

Site: NBU 921-18P

Rig Name No: GWS 1/1

Event: COMPLETION

Start Date: 1/23/2012

End Date:

Active Datum: RKB @4,880.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/18/0/0/26/PM/S/1080/E/0/197/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:45 - 16:30	9.75	COMP	36	E	P		<p>SICP 3,000 PSI, SURFACE VALVE OPEN &amp; LOCKED. PERF STG 4) PU 4 1/2" 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GRM, .36 HOLE SIZE. 120 DEG PHASING, RIH SET 8K CBP @ 10,271' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>PRIME UP PUMPS &amp; LINES. FRAC STG 4) WHP 2,198 PSI, BRK 4,571 PSI @ 5.4 BPM, ISIP 3,565 PSI, FG .79. CALC PERFS OPEN INJ RATE 40.7 BPM @ 6,167 PSI = 18/24 HOLES OPEN 75%. ISIP 3,222 PSI, FG .76, NPI -343 PSI. MP 6,584 PSI, MR 48.5 BPM, AP 6,054 PSI, AR 43.6 BPM, PUMPED 30/50 OTTAWA SAND. SWI, X-OVER FOR WL.</p> <p>PERF STG 5) PU 4 1/2" 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GRM, .36 HOLE SIZE. 120 DEG PHASING, RIH SET 8K CBP @ 9,904' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 5) WHP 2,125 PSI, BRK 3,627 PSI @ 5.9 BPM, ISIP 2,802 PSI, FG .72. CALC PERFS OPEN INJ RATE 44.5 BPM @ 6,327 PSI = 21/24 HOLES OPEN 88%. ISIP 3,222 PSI, FG .77, NPI 420 PSI. MP 6,932 PSI, MR 51 BPM, AP 6,004 PSI, AR 49.6 BPM, PUMPED 30/50 OTTAWA SAND. SWI, X-OVER FOR WL.</p> <p>PERF STG 6) PU 4 1/2" 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GRM, .36 HOLE SIZE. 120 DEG PHASING, RIH SET 8K CBP @ 9,422' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 6) WHP 1,758 PSI, BRK 3,510 PSI @ 6.4 BPM, ISIP 2,990 PSI, FG .76. CALC PERFS OPEN INJ RATE 51 BPM @ 5,990 PSI = 22/24 HOLES OPEN 91%. ISIP 2,986 PSI, FG .76, NPI - 4 PSI. MP 6,369 PSI, MR 51.2 BPM, AP 5,895 PSI, AR 50.3 BPM, PUMPED 30/50 OTTAWA SAND. SWI, X-OVER FOR WL.</p> <p>PERF STG 7) PU 4 1/2" 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GRM, .36 HOLE SIZE. 120 DEG PHASING, RIH SET 8K CBP @ 9,132' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 7) WHP 2,009 PSI, BRK 3,305 PSI @ 5.8 BPM, ISIP 2,583 PSI, FG .72. CALC PERFS OPEN INJ RATE 45.9 BPM @ 6,458 PSI = 17/24 HOLES OPEN 71%.</p>

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18P

Spud Date: 11/24/2011

Project: UTAH-UINTAH

Site: NBU 921-18P

Rig Name No: GWS 1/1

Event: COMPLETION

Start Date: 1/23/2012

End Date:

Active Datum: RKB @4,880.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/18/0/0/26/PM/S/1080/E/0/197/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								<p>ISIP 3,188 PSI, FG .79, NPI 605 PSI. MP 7,200 PSI, MR 50.7 BPM, AP 6,102 PSI, AR 47.7 BPM, PUMPED 30/50 OTTAWA SAND. SWI, X-OVER FOR WL.</p> <p>PERF STG 8) PU 4 1/2" 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GRM, .36 HOLE SIZE. 120 DEG PHASING, RIH SET 8K CBP @ 8,932' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 8) WHP 2,125 PSI, BRK 3,148 PSI @ 5.6 BPM, ISIP 2,741 PSI, FG .75. CALC PERFS OPEN INJ RATE 45.7 BPM @ 6,556 PSI = 17/24 HOLES OPEN 71%. ISIP 2,847 PSI, FG .76, NPI 106 PSI. MP 6,820 PSI, MR 50.7 BPM, AP 5,903 PSI, AR 47.5 BPM, PUMPED 30/50 OTTAWA SAND. SWI, X-OVER FOR WL.</p> <p>PU 4 1/2" 8K HAL CBP, RIH &amp; SET TOP KILL @ 8,675', POOH, RDMO SUPERIOR &amp; JW WIRELINE.</p> <p>TOTAL SAND = 351,851 LBS TOTAL CLFL = 14,857 BBLS BIOCIDE = 320 GALLONS SCALE = 677 GALLONS RD FLOOR, ND FRAC VALVE, NU BOP, RU FLOOR &amp; TBG EQUIP, PU 3 7/8" BIT, POBS, XN S/N, RIH W/ TBG, SWI, SDFWE. HSM, SLIPS, TRIPS &amp; FALLS, TRIPPING, D/O PLUGS</p>
	16:30 - 18:00	1.50	COMP	31	I	P		
1/30/2012	7:00 - 7:15	0.25	COMP	48		P		

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18P		Spud Date: 11/24/2011	
Project: UTAH-UINTAH	Site: NBU 921-18P		Rig Name No: GWS 1/1
Event: COMPLETION	Start Date: 1/23/2012		End Date:
Active Datum: RKB @4,880.00usft (above Mean Sea Level)		UWI: SE/SE/0/9/S/21/E/18/0/0/26/PM/S/1080/E/0/197/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 18:00	10.75	COMP	31	I	P		<p>RIH W/TBG TO KILL PLUG, RU P/S, FILL TBG BREAK CIRC, P/T BOP TO 4,500 PSI FOR 15 MIN, LOST 0 PSI, D/O PLUGS, SURFACE CSG VALVE OPEN &amp; LOCKED.</p> <p>C/O 5' SAND, TAG 1ST PLUG @ 8,675' DRL PLUG IN 8 MIN. 1,000 PSI INCREASE RIH, CSG PRESS 300 PSI.</p> <p>C/O 15' SAND, TAG 2ND PLUG @ 8,932' DRL PLUG IN 10 MIN. 800 PSI INCREASE RIH, CSG PRESS 200 PSI.</p> <p>C/O 20' SAND, TAG 3RD PLUG @ 9,132' DRL PLUG IN 11 MIN. 500 PSI INCREASE RIH, CSG PRESS 350 PSI.</p> <p>C/O 25' SAND, TAG 4TH PLUG @ 9,422' DRL PLUG IN 9 MIN. 1,000 PSI INCREASE RIH, CSG PRESS 500 PSI.</p> <p>C/O 25' SAND, TAG 5TH PLUG @ 9,904' DRL PLUG IN 10 MIN. 800 PSI INCREASE RIH, CSG PRESS 500 PSI.</p> <p>C/O 15' SAND, TAG 6TH PLUG @ 10,271' DRL PLUG IN 12 MIN. 700 PSI INCREASE RIH, CSG PRESS 500 PSI.</p> <p>C/O 25' SAND, TAG 7TH PLUG @ 11,118' DRL PLUG IN 10 MIN. 500 PSI INCREASE RIH, CSG PRESS 600 PSI.</p> <p>C/O 20' SAND, TAG 8TH PLUG @ 11,224' DRL PLUG IN 9 MIN. 500 PSI INCREASE RIH, CSG PRESS 650 PSI.</p> <p>PBTD @ 11,472', BTM PERF @ 11,384', RIH TAGGED @ 11,405', C/O TO 11,469', 85' PAST BTM PERF W/ 361 JTS 2 3/8" L-80 TBG, LD 11 JTS, PU &amp; STRIP IN TBG HANGER &amp; LAND TBG W/ 350 JTS 2 3/8" L-80, EOT 11,118.30'.</p> <p>RD POWER SWMVEL, FLOOR &amp; TBG EQUIP, ND BOPS, NU WH, DROP BALL TO SHEAR OFF BIT W/ 3,800 PSI, LET BIT FALL FOR 20 MIN. MIRU B&amp;C QUICK TEST, P/T FLOW LINE FROM WH TO HAL 9000 TO 4,500 PSI, LOST 230 PSI IN 15 MIN, NO VISIBLE LEAKS.</p> <p>TURN OVER TO FLOW BACK CREW. RD TO MOVE TO NBU 921-19E IN AM.</p> <p>KB= 18' 4 1/16" WEATHERFORD HANGER= .83' TBG DELIVERED 369 JTS</p>



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18P

Spud Date: 11/24/2011

Project: UTAH-UINTAH

Site: NBU 921-18P

Rig Name No: GWS 1/1

Event: COMPLETION

Start Date: 1/23/2012

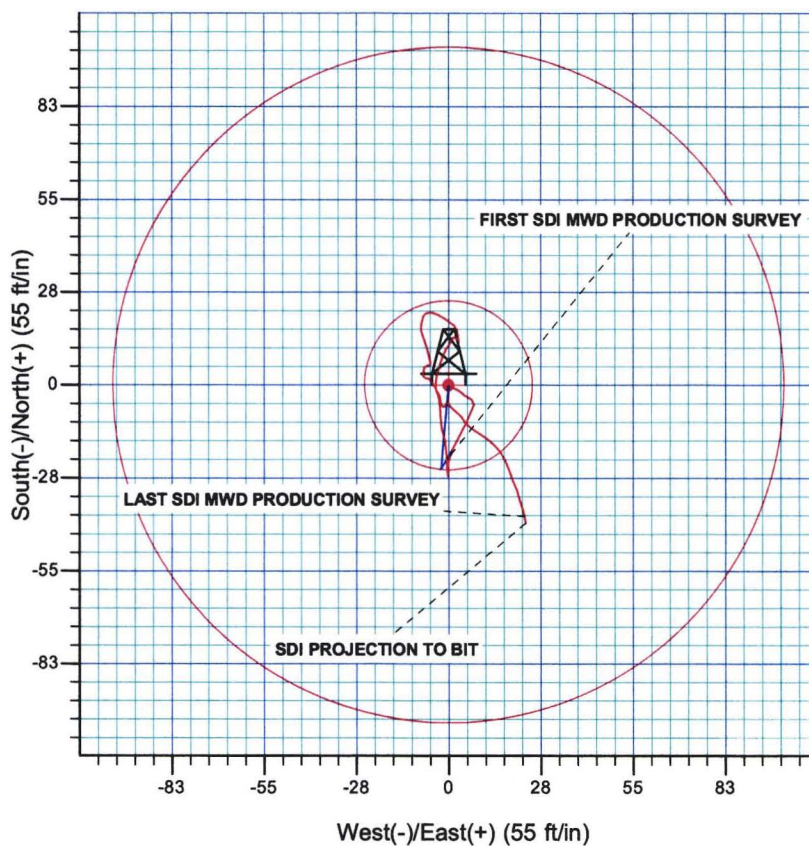
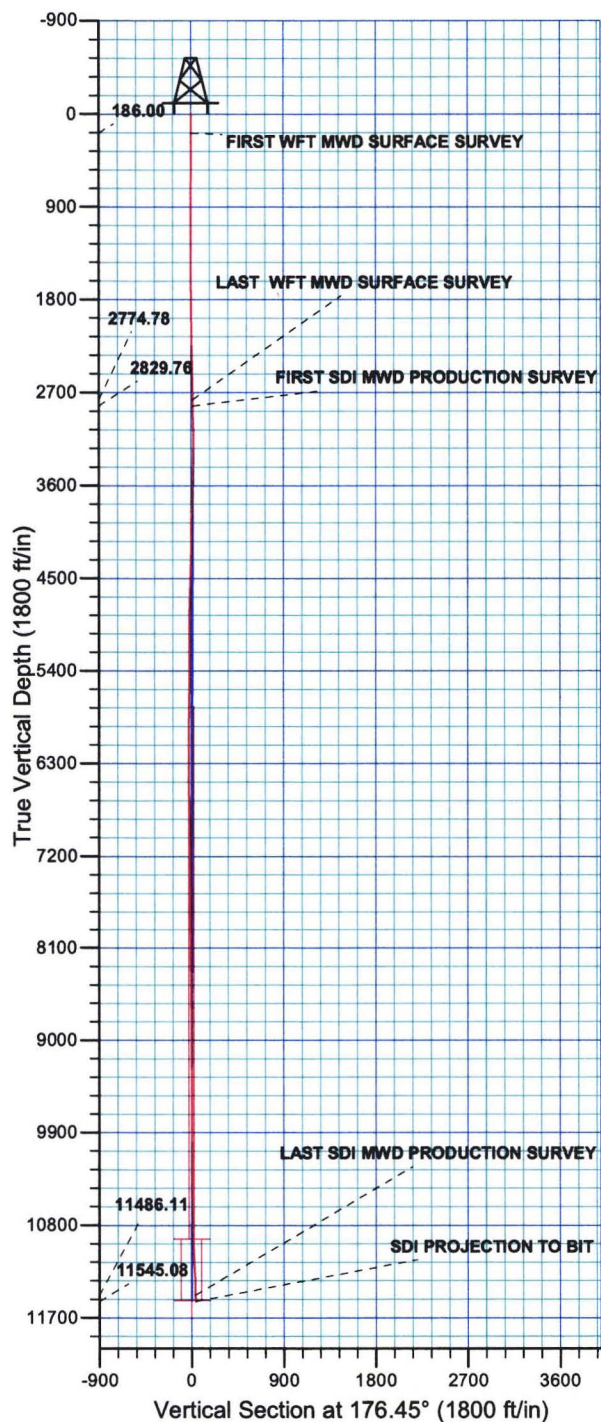
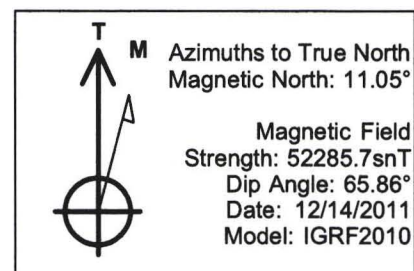
End Date:

Active Datum: RKB @4,880.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/18/0/0/26/PM/S/1080/E/0/197/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								350 JTS 2 3/8" L-80 = 11,097.27'
								TBG USED 350 JTS
								POBS= 2.20'
								TBG RETURNED 19 JTS
								EOT @ 11,118.30'
								TWTR= 14,857 BBLS
								TWR= 2,500 BBLS
								TWLTR= 12,357 BBLS

WELL DETAILS: NBU 921-18P					
GL 4002 & 10B-19 @ 4001.00ft (PIONEER 54)					
+N-S	+E-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14540784.25	2036506.70	40° 1' 54.620 N	109° 35' 6.198 W



PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N	
Geodetic System:	Universal Transverse Mercator (US Survey Feet)
Datum:	NAD 1927 (NADCON CONUS)
Ellipsoid:	Clarke 1866
Zone:	Zone 12N (114 W to 108 W)
Location:	SECTION 18 T9S R21E
System Datum:	Mean Sea Level

Design: OH (NBU 921-18P/OH)
Created By: RobertScott Date: 14:55, January 17 2012

# **US ROCKIES REGION PLANNING**

**UTAH - UTM (feet), NAD27, Zone 12N**

**NBU 921-18P PAD**

**NBU 921-18P**

**OH**

**Design: OH**

## **Standard Survey Report**

**17 January, 2012**

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (foot), NAD27, Zone 12N  
**Site:** NBU 921-18P PAD  
**Well:** NBU 921-18P  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-18P  
**TVD Reference:** GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)  
**MD Reference:** GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

**Project** UTAH - UTM (feet), NAD27, Zone 12N  
**Map System:** Universal Transverse Mercator (US Survey Foot) **System Datum:** Mean Sea Level  
**Geo Datum:** NAD 1927 (NADCON CONUS)  
**Map Zone:** Zone 12N (114 W to 108 W)

**Site** NBU 921-18P PAD, SECTION 18 T9S R21E  
**Site Position:** **Northing:** 14,540,784.25 usft **Latitude:** 40° 1' 54.620 N  
**From:** Lat/Long **Easting:** 2,036,506.70 usft **Longitude:** 109° 35' 6.198 W  
**Position Uncertainty:** 0.00 ft **Slot Radius:** 13.200 in **Grid Convergence:** 0.91 °

**Well** NBU 921-18P, 1080 FSL 197 FEL  
**Well Position** **+N-S** 0.00 ft **Northing:** 14,540,784.25 usft **Latitude:** 40° 1' 54.620 N  
**+E-W** 0.00 ft **Easting:** 2,036,506.70 usft **Longitude:** 109° 35' 6.198 W  
**Position Uncertainty** 0.00 ft **Wellhead Elevation:** ft **Ground Level:** 4,862.00 ft

**Wellbore** OH  
**Magnetics** **Model Name** **Sample Date** **Declination** **Dip Angle** **Field Strength**  
 (°) (°) (nT)  
 IGRF2010 12/14/11 11.05 65.86 52,286

**Design** OH  
**Audit Notes:**  
**Version:** 1.0 **Phase:** ACTUAL **Tie On Depth:** 0.00  
**Vertical Section:** **Depth From (TVD)** **+N-S** **+E-W** **Direction**  
 (ft) (ft) (ft) (°)  
 0.00 0.00 0.00 176.45

**Survey Program** **Date** 01/17/12  

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
15.00	2,775.00	Survey #1 WFT MWD SURVEYS (OH)	MWD	MWD - Standard
2,830.00	11,547.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1

**Survey**  

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00
186.00	0.09	41.80	186.00	0.10	0.09	-0.09	0.05	0.05	0.00
<b>FIRST WFT MWD SURFACE SURVEY</b>									
273.00	0.05	134.71	273.00	0.12	0.16	-0.11	0.12	-0.05	106.79
355.00	0.20	139.50	355.00	-0.01	0.28	0.03	0.18	0.18	5.84
655.00	0.31	118.23	655.00	-0.79	1.34	0.87	0.05	0.04	-7.09
955.00	0.19	112.23	954.99	-1.36	2.51	1.52	0.04	-0.04	-2.00
1,255.00	0.31	122.98	1,254.99	-1.99	3.65	2.22	0.04	0.04	3.58
1,555.00	0.38	141.35	1,554.99	-3.21	4.95	3.51	0.04	0.02	6.12

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (foot), NAD27, Zono 12N  
**Site:** NBU 921-18P PAD  
**Well:** NBU 921-18P  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-18P  
**TVD Reference:** GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)  
**MD Reference:** GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,855.00	0.50	103.60	1,854.98	-4.30	6.85	4.71	0.10	0.04	-12.58
2,155.00	0.56	202.60	2,154.97	-5.96	7.56	6.42	0.27	0.02	33.00
2,475.00	1.56	203.98	2,474.91	-11.38	5.19	11.68	0.31	0.31	0.43
2,775.00	1.79	209.90	2,774.78	-19.18	1.19	19.21	0.10	0.08	1.97
LAST WFT MWD SURFACE SURVEY									
2,830.00	1.76	192.37	2,829.76	-20.74	0.58	20.74	0.98	-0.05	-31.87
FIRST SDI MWD PRODUCTION SURVEY									
2,893.00	1.49	192.90	2,892.73	-22.49	0.19	22.46	0.43	-0.43	0.84
2,988.00	1.36	185.42	2,987.70	-24.81	-0.19	24.75	0.24	-0.14	-7.87
3,083.00	0.62	165.74	3,082.69	-26.43	-0.17	26.37	0.85	-0.78	-20.72
3,177.00	0.14	202.08	3,176.68	-27.03	-0.09	26.98	0.55	-0.51	38.66
3,272.00	0.93	352.46	3,271.68	-26.38	-0.23	26.31	1.11	0.83	158.29
3,367.00	1.76	357.15	3,366.65	-24.16	-0.41	24.08	0.88	0.87	4.94
3,462.00	2.46	355.32	3,461.59	-20.67	-0.65	20.59	0.74	0.74	-1.93
3,556.00	2.37	352.07	3,555.51	-16.73	-1.08	16.63	0.17	-0.10	-3.46
3,651.00	1.93	341.78	3,650.44	-13.27	-1.85	13.13	0.61	-0.46	-10.83
3,746.00	2.20	359.89	3,745.38	-9.92	-2.35	9.76	0.74	0.28	19.06
3,841.00	1.85	354.18	3,840.32	-6.57	-2.51	6.41	0.42	-0.37	-6.01
3,935.00	1.24	348.48	3,934.28	-4.07	-2.87	3.88	0.67	-0.65	-6.06
4,030.00	0.88	336.51	4,029.27	-2.39	-3.37	2.18	0.44	-0.38	-12.60
4,125.00	0.70	356.46	4,124.26	-1.14	-3.69	0.91	0.34	-0.19	21.00
4,220.00	1.41	357.25	4,219.24	0.60	-3.78	-0.84	0.75	0.75	0.83
4,315.00	0.79	19.75	4,314.22	2.39	-3.62	-2.61	0.78	-0.65	23.68
4,410.00	1.06	10.44	4,409.21	3.87	-3.24	-4.06	0.32	0.28	-9.80
4,504.00	1.41	23.62	4,503.19	5.78	-2.62	-5.93	0.48	0.37	14.02
4,599.00	1.67	15.97	4,598.16	8.18	-1.77	-8.28	0.35	0.27	-8.05
4,694.00	1.32	28.80	4,693.12	10.47	-0.86	-10.51	0.51	-0.37	13.51
4,789.00	0.88	47.70	4,788.11	11.92	0.21	-11.89	0.59	-0.46	19.89
4,884.00	0.70	11.84	4,883.10	12.98	0.86	-12.90	0.54	-0.19	-37.75
4,979.00	0.53	38.56	4,978.09	13.89	1.26	-13.79	0.35	-0.18	28.13
5,074.00	0.44	108.70	5,073.09	14.12	1.88	-13.98	0.59	-0.09	73.83
5,168.00	0.14	159.06	5,167.09	13.90	2.26	-13.73	0.39	-0.32	53.57
5,263.00	0.62	149.04	5,262.09	13.35	2.57	-13.16	0.51	0.51	-10.55
5,358.00	0.35	151.50	5,357.08	12.65	2.97	-12.44	0.28	-0.28	2.59
5,453.00	0.62	350.92	5,452.08	12.91	3.03	-12.69	1.01	0.28	-169.03
5,548.00	1.32	350.31	5,547.07	14.49	2.76	-14.29	0.74	0.74	-0.64
5,642.00	0.79	357.96	5,641.05	16.21	2.56	-16.02	0.58	-0.56	8.14
5,737.00	1.36	307.22	5,736.04	17.54	1.63	-17.41	1.11	0.80	-53.41
5,832.00	1.14	308.30	5,831.01	18.81	0.00	-18.77	0.23	-0.23	1.14
5,927.00	0.79	303.02	5,926.00	19.75	-1.30	-19.80	0.38	-0.37	-5.56
6,022.00	0.70	295.73	6,020.99	20.36	-2.37	-20.47	0.14	-0.09	-7.67
6,117.00	0.70	297.13	6,115.98	20.88	-3.41	-21.05	0.02	0.00	1.47
6,212.00	0.53	287.91	6,210.98	21.28	-4.34	-21.51	0.21	-0.18	-9.71



**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (foot), NAD27, Zone 12N  
**Site:** NBU 921-18P PAD  
**Well:** NBU 921-18P  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-18P  
**TVD Reference:** GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)  
**MD Reference:** GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,308.00	0.35	259.96	6,306.98	21.36	-5.05	-21.64	0.29	-0.19	-29.11
6,403.00	0.70	274.11	6,401.97	21.35	-5.92	-21.68	0.39	0.37	14.89
6,498.00	0.62	223.75	6,496.97	21.02	-6.85	-21.41	0.60	-0.08	-53.01
6,593.00	1.06	202.65	6,591.96	19.84	-7.55	-20.27	0.56	0.46	-22.21
6,687.00	0.70	186.92	6,685.95	18.47	-7.95	-18.93	0.46	-0.38	-16.73
6,782.00	0.79	190.70	6,780.94	17.25	-8.14	-17.72	0.11	0.09	3.98
6,877.00	0.70	172.95	6,875.93	16.03	-8.19	-16.51	0.26	-0.09	-18.68
6,972.00	0.97	155.63	6,970.92	14.72	-7.79	-15.18	0.39	0.28	-18.23
7,067.00	1.32	156.95	7,065.90	12.98	-7.03	-13.39	0.37	0.37	1.39
7,161.00	1.67	169.52	7,159.87	10.64	-6.35	-11.01	0.51	0.37	13.37
7,256.00	1.32	164.24	7,254.84	8.23	-5.81	-8.57	0.40	-0.37	-5.56
7,352.00	0.70	160.73	7,350.82	6.61	-5.31	-6.92	0.65	-0.65	-3.66
7,446.00	0.35	251.78	7,444.82	5.98	-5.40	-6.30	0.84	-0.37	96.86
7,541.00	0.35	242.64	7,539.82	5.75	-5.93	-6.11	0.06	0.00	-9.62
7,635.00	0.26	299.77	7,633.81	5.73	-6.37	-6.11	0.32	-0.10	60.78
7,730.00	0.18	179.89	7,728.81	5.68	-6.56	-6.08	0.40	-0.08	-126.19
7,825.00	0.47	242.49	7,823.81	5.35	-6.90	-5.77	0.44	0.31	65.89
7,919.00	0.09	206.26	7,917.81	5.11	-7.28	-5.55	0.43	-0.40	-38.54
8,014.00	0.35	175.67	8,012.81	4.75	-7.29	-5.20	0.29	0.27	-32.20
8,109.00	0.53	203.80	8,107.81	4.06	-7.44	-4.52	0.29	0.19	29.61
8,204.00	0.18	159.32	8,202.81	3.52	-7.57	-3.98	0.44	-0.37	-46.82
8,299.00	0.35	185.43	8,297.81	3.09	-7.54	-3.55	0.22	0.18	27.48
8,394.00	0.18	139.81	8,392.80	2.69	-7.47	-3.15	0.27	-0.18	-48.02
8,489.00	0.53	134.54	8,487.80	2.27	-7.06	-2.70	0.37	0.37	-5.55
8,584.00	0.35	80.48	8,582.80	2.01	-6.46	-2.40	0.45	-0.19	-56.91
8,679.00	0.26	97.54	8,677.80	2.03	-5.96	-2.39	0.13	-0.09	17.96
8,774.00	0.53	152.91	8,772.80	1.61	-5.55	-1.95	0.46	0.28	58.28
8,869.00	0.53	136.56	8,867.79	0.90	-5.05	-1.21	0.16	0.00	-17.21
8,964.00	0.88	142.45	8,962.79	0.00	-4.30	-0.27	0.38	0.37	6.20
9,059.00	1.23	160.47	9,057.77	-1.54	-3.52	1.32	0.50	0.37	18.97
9,153.00	1.23	154.75	9,151.75	-3.40	-2.75	3.23	0.13	0.00	-6.09
9,248.00	0.79	178.66	9,246.73	-4.98	-2.30	4.83	0.63	-0.46	25.17
9,343.00	0.09	151.59	9,341.73	-5.70	-2.25	5.55	0.75	-0.74	-28.49
9,438.00	0.09	96.48	9,436.73	-5.77	-2.14	5.63	0.09	0.00	-58.01
9,533.00	0.53	164.07	9,531.73	-6.20	-1.94	6.07	0.53	0.46	71.15
9,628.00	0.44	65.89	9,626.73	-6.48	-1.49	6.37	0.77	-0.09	-103.35
9,723.00	0.53	50.95	9,721.72	-6.05	-0.81	5.99	0.16	0.09	-15.73
9,817.00	0.44	7.27	9,815.72	-5.42	-0.43	5.38	0.39	-0.10	-46.47
9,913.00	0.18	163.89	9,911.72	-5.20	-0.34	5.17	0.63	-0.27	163.15
10,008.00	0.70	145.88	10,006.72	-5.82	0.02	5.81	0.56	0.55	-18.96
10,103.00	1.23	133.57	10,101.70	-7.01	1.09	7.06	0.60	0.56	-12.96
10,198.00	1.14	129.00	10,196.68	-8.30	2.56	8.45	0.14	-0.09	-4.81
10,293.00	1.14	142.01	10,291.66	-9.64	3.88	9.87	0.27	0.00	13.69
10,387.00	1.32	142.54	10,385.64	-11.24	5.11	11.54	0.19	0.19	0.56

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (foot), NAD27, Zono 12N  
**Site:** NBU 921-18P PAD  
**Well:** NBU 921-18P  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-18P  
**TVD Reference:** GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)  
**MD Reference:** GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,483.00	1.58	126.80	10,481.61	-12.91	6.84	13.31	0.49	0.27	-16.40
10,578.00	1.74	119.54	10,576.57	-14.41	9.15	14.95	0.28	0.17	-7.64
10,672.00	1.85	127.51	10,670.53	-16.03	11.59	16.72	0.29	0.12	8.48
10,768.00	1.49	136.30	10,766.48	-17.88	13.68	18.69	0.46	-0.38	9.16
10,862.00	1.76	143.59	10,860.45	-19.93	15.39	20.84	0.36	0.29	7.76
10,957.00	1.76	155.37	10,955.40	-22.43	16.86	23.43	0.38	0.00	12.40
11,052.00	1.85	161.34	11,050.36	-25.20	17.96	26.27	0.22	0.09	6.28
11,146.00	2.02	157.21	11,144.30	-28.17	19.09	29.30	0.23	0.18	-4.39
11,242.00	2.02	158.62	11,240.24	-31.30	20.36	32.51	0.05	0.00	1.47
11,336.00	1.93	163.63	11,334.19	-34.37	21.41	35.63	0.21	-0.10	5.33
11,431.00	1.67	163.98	11,429.14	-37.23	22.24	38.54	0.27	-0.27	0.37
11,488.00	1.83	169.61	11,486.11	-38.97	22.64	40.30	0.55	0.46	9.88
<b>LAST SDI MWD PRODUCTION SURVEY</b>									
11,547.00	1.93	169.61	11,545.08	-40.93	23.00	42.27	0.00	0.00	0.00
<b>SDI PROJECTION TO BIT</b>									

**Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N-S (ft)	+E-W (ft)	
186.00	186.00	0.10	0.09	FIRST WFT MWD SURFACE SURVEY
2,775.00	2,774.78	-19.18	1.19	LAST WFT MWD SURFACE SURVEY
2,830.00	2,829.76	-20.74	0.58	FIRST SDI MWD PRODUCTION SURVEY
11,488.00	11,486.11	-38.97	22.64	LAST SDI MWD PRODUCTION SURVEY
11,547.00	11,545.08	-40.93	23.00	SDI PROJECTION TO BIT

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



**Scientific Drilling**  
Rocky Mountain Operations

# **US ROCKIES REGION PLANNING**

**UTAH - UTM (feet), NAD27, Zone 12N**

**NBU 921-18P PAD**

**NBU 921-18P**

**OH**

**Design: OH**

## **Survey Report - Geographic**

**17 January, 2012**



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-18P
<b>Project:</b>	UTAH - UTM (foot), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)
<b>Site:</b>	NBU 921-18P PAD	<b>MD Reference:</b>	GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)
<b>Well:</b>	NBU 921-18P	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Foot)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 921-18P PAD, SECTION 18 T9S R21E				
<b>Site Position:</b>		<b>Northing:</b>	14,540,784.25 usft	<b>Latitude:</b>	40° 1' 54.620 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,036,506.70 usft	<b>Longitude:</b>	109° 35' 6.198 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.91 °

<b>Well</b>	NBU 921-18P, 1080 FSL 197 FEL					
<b>Well Position</b>	+N-S	0.00 ft	<b>Northing:</b>	14,540,784.25 usft	<b>Latitude:</b>	40° 1' 54.620 N
	+E-W	0.00 ft	<b>Easting:</b>	2,036,506.70 usft	<b>Longitude:</b>	109° 35' 6.198 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,862.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	12/14/11	11.05	65.86	52,286

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N-S (ft)</b>	<b>+E-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	176.45	

<b>Survey Program</b>	<b>Date</b>	01/17/12			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
15.00	2,775.00	Survey #1 WFT MWD SURVEYS (OH)	MWD	MWD - Standard	
2,830.00	11,547.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

<b>Survey</b>									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,540,784.25	2,036,506.70	40° 1' 54.620 N	109° 35' 6.198 W
15.00	0.00	0.00	15.00	0.00	0.00	14,540,784.25	2,036,506.70	40° 1' 54.620 N	109° 35' 6.198 W
186.00	0.09	41.80	186.00	0.10	0.09	14,540,784.35	2,036,506.79	40° 1' 54.621 N	109° 35' 6.197 W
<b>FIRST WFT MWD SURFACE SURVEY</b>									
273.00	0.05	134.71	273.00	0.12	0.16	14,540,784.37	2,036,506.86	40° 1' 54.622 N	109° 35' 6.196 W
355.00	0.20	139.50	355.00	-0.01	0.28	14,540,784.24	2,036,506.98	40° 1' 54.620 N	109° 35' 6.194 W
655.00	0.31	118.23	655.00	-0.79	1.34	14,540,783.48	2,036,508.05	40° 1' 54.613 N	109° 35' 6.181 W
955.00	0.19	112.23	954.99	-1.36	2.51	14,540,782.92	2,036,509.23	40° 1' 54.607 N	109° 35' 6.166 W
1,255.00	0.31	122.98	1,254.99	-1.99	3.65	14,540,782.31	2,036,510.38	40° 1' 54.601 N	109° 35' 6.151 W
1,555.00	0.38	141.35	1,554.99	-3.21	4.95	14,540,781.11	2,036,511.70	40° 1' 54.589 N	109° 35' 6.134 W
1,855.00	0.50	103.60	1,854.98	-4.30	6.85	14,540,780.06	2,036,513.61	40° 1' 54.578 N	109° 35' 6.110 W

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (foot), NAD27, Zono 12N  
**Site:** NBU 921-18P PAD  
**Well:** NBU 921-18P  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-18P  
**TVD Reference:** GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)  
**MD Reference:** GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
2,155.00	0.56	202.60	2,154.97	-5.96	7.56	14,540,778.41	2,036,514.35	40° 1' 54.562 N	109° 35' 6.101 W
2,475.00	1.56	203.98	2,474.91	-11.38	5.19	14,540,772.95	2,036,512.06	40° 1' 54.508 N	109° 35' 6.131 W
2,775.00	1.79	209.90	2,774.78	-19.18	1.19	14,540,765.09	2,036,508.19	40° 1' 54.431 N	109° 35' 6.183 W
<b>LAST WFT MWD SURFACE SURVEY</b>									
2,830.00	1.76	192.37	2,829.76	-20.74	0.58	14,540,763.51	2,036,507.61	40° 1' 54.415 N	109° 35' 6.191 W
<b>FIRST SDI MWD PRODUCTION SURVEY</b>									
2,893.00	1.49	192.90	2,892.73	-22.49	0.19	14,540,761.76	2,036,507.25	40° 1' 54.398 N	109° 35' 6.196 W
2,988.00	1.36	185.42	2,987.70	-24.81	-0.19	14,540,759.43	2,036,506.90	40° 1' 54.375 N	109° 35' 6.200 W
3,083.00	0.62	165.74	3,082.69	-26.43	-0.17	14,540,757.81	2,036,506.95	40° 1' 54.359 N	109° 35' 6.200 W
3,177.00	0.14	202.08	3,176.68	-27.03	-0.09	14,540,757.21	2,036,507.04	40° 1' 54.353 N	109° 35' 6.199 W
3,272.00	0.93	352.46	3,271.68	-26.38	-0.23	14,540,757.87	2,036,506.88	40° 1' 54.360 N	109° 35' 6.201 W
3,367.00	1.76	357.15	3,366.65	-24.16	-0.41	14,540,760.09	2,036,506.67	40° 1' 54.382 N	109° 35' 6.203 W
3,462.00	2.46	355.32	3,461.59	-20.67	-0.65	14,540,763.57	2,036,506.38	40° 1' 54.416 N	109° 35' 6.206 W
3,556.00	2.37	352.07	3,555.51	-16.73	-1.08	14,540,767.50	2,036,505.89	40° 1' 54.455 N	109° 35' 6.212 W
3,651.00	1.93	341.78	3,650.44	-13.27	-1.85	14,540,770.95	2,036,505.06	40° 1' 54.489 N	109° 35' 6.222 W
3,746.00	2.20	359.89	3,745.38	-9.92	-2.35	14,540,774.29	2,036,504.50	40° 1' 54.522 N	109° 35' 6.228 W
3,841.00	1.85	354.18	3,840.32	-6.57	-2.51	14,540,777.63	2,036,504.29	40° 1' 54.555 N	109° 35' 6.230 W
3,935.00	1.24	348.48	3,934.28	-4.07	-2.87	14,540,780.13	2,036,503.89	40° 1' 54.580 N	109° 35' 6.235 W
4,030.00	0.88	336.51	4,029.27	-2.39	-3.37	14,540,781.80	2,036,503.37	40° 1' 54.597 N	109° 35' 6.241 W
4,125.00	0.70	356.46	4,124.26	-1.14	-3.69	14,540,783.04	2,036,503.02	40° 1' 54.609 N	109° 35' 6.245 W
4,220.00	1.41	357.25	4,219.24	0.60	-3.78	14,540,784.79	2,036,502.90	40° 1' 54.626 N	109° 35' 6.247 W
4,315.00	0.79	19.75	4,314.22	2.39	-3.62	14,540,786.58	2,036,503.04	40° 1' 54.644 N	109° 35' 6.245 W
4,410.00	1.06	10.44	4,409.21	3.87	-3.24	14,540,788.06	2,036,503.40	40° 1' 54.659 N	109° 35' 6.240 W
4,504.00	1.41	23.62	4,503.19	5.78	-2.62	14,540,789.99	2,036,503.99	40° 1' 54.678 N	109° 35' 6.232 W
4,599.00	1.67	15.97	4,598.16	8.18	-1.77	14,540,792.40	2,036,504.80	40° 1' 54.701 N	109° 35' 6.221 W
4,694.00	1.32	28.80	4,693.12	10.47	-0.86	14,540,794.70	2,036,505.67	40° 1' 54.724 N	109° 35' 6.209 W
4,789.00	0.88	47.70	4,788.11	11.92	0.21	14,540,796.17	2,036,506.72	40° 1' 54.738 N	109° 35' 6.195 W
4,884.00	0.70	11.84	4,883.10	12.98	0.86	14,540,797.24	2,036,507.36	40° 1' 54.749 N	109° 35' 6.187 W
4,979.00	0.53	38.56	4,978.09	13.89	1.26	14,540,798.16	2,036,507.74	40° 1' 54.758 N	109° 35' 6.182 W
5,074.00	0.44	108.70	5,073.09	14.12	1.88	14,540,798.39	2,036,508.35	40° 1' 54.760 N	109° 35' 6.174 W
5,168.00	0.14	159.06	5,167.09	13.90	2.26	14,540,798.18	2,036,508.74	40° 1' 54.758 N	109° 35' 6.169 W
5,263.00	0.62	149.04	5,262.09	13.35	2.57	14,540,797.63	2,036,509.05	40° 1' 54.752 N	109° 35' 6.165 W
5,358.00	0.35	151.50	5,357.08	12.65	2.97	14,540,796.94	2,036,509.47	40° 1' 54.745 N	109° 35' 6.160 W
5,453.00	0.62	350.92	5,452.08	12.91	3.03	14,540,797.20	2,036,509.52	40° 1' 54.748 N	109° 35' 6.159 W
5,548.00	1.32	350.31	5,547.07	14.49	2.76	14,540,798.78	2,036,509.23	40° 1' 54.764 N	109° 35' 6.163 W
5,642.00	0.79	357.96	5,641.05	16.21	2.56	14,540,800.49	2,036,509.00	40° 1' 54.781 N	109° 35' 6.165 W
5,737.00	1.36	307.22	5,736.04	17.54	1.63	14,540,801.81	2,036,508.05	40° 1' 54.794 N	109° 35' 6.177 W
5,832.00	1.14	308.30	5,831.01	18.81	0.00	14,540,803.05	2,036,506.39	40° 1' 54.806 N	109° 35' 6.198 W
5,927.00	0.79	303.02	5,926.00	19.75	-1.30	14,540,803.98	2,036,505.09	40° 1' 54.816 N	109° 35' 6.215 W
6,022.00	0.70	295.73	6,020.99	20.36	-2.37	14,540,804.57	2,036,504.01	40° 1' 54.822 N	109° 35' 6.228 W
6,117.00	0.70	297.13	6,115.98	20.88	-3.41	14,540,805.07	2,036,502.96	40° 1' 54.827 N	109° 35' 6.242 W
6,212.00	0.53	287.91	6,210.98	21.28	-4.34	14,540,805.45	2,036,502.02	40° 1' 54.831 N	109° 35' 6.254 W
6,308.00	0.35	259.96	6,306.98	21.36	-5.05	14,540,805.53	2,036,501.31	40° 1' 54.832 N	109° 35' 6.263 W
6,403.00	0.70	274.11	6,401.97	21.35	-5.92	14,540,805.50	2,036,500.44	40° 1' 54.831 N	109° 35' 6.274 W
6,498.00	0.62	223.75	6,496.97	21.02	-6.85	14,540,805.16	2,036,499.51	40° 1' 54.828 N	109° 35' 6.286 W
6,593.00	1.06	202.65	6,591.96	19.84	-7.55	14,540,803.97	2,036,498.84	40° 1' 54.817 N	109° 35' 6.295 W
6,687.00	0.70	186.92	6,685.95	18.47	-7.95	14,540,802.59	2,036,498.46	40° 1' 54.803 N	109° 35' 6.300 W
6,782.00	0.79	190.70	6,780.94	17.25	-8.14	14,540,801.37	2,036,498.28	40° 1' 54.791 N	109° 35' 6.303 W
6,877.00	0.70	172.95	6,875.93	16.03	-8.19	14,540,800.15	2,036,498.25	40° 1' 54.779 N	109° 35' 6.303 W
6,972.00	0.97	155.63	6,970.92	14.72	-7.79	14,540,798.84	2,036,498.68	40° 1' 54.766 N	109° 35' 6.298 W
7,067.00	1.32	156.95	7,065.90	12.98	-7.03	14,540,797.12	2,036,499.47	40° 1' 54.749 N	109° 35' 6.288 W
7,161.00	1.67	169.52	7,159.87	10.64	-6.35	14,540,794.78	2,036,500.18	40° 1' 54.726 N	109° 35' 6.280 W
7,256.00	1.32	164.24	7,254.84	8.23	-5.81	14,540,792.38	2,036,500.76	40° 1' 54.702 N	109° 35' 6.273 W
7,352.00	0.70	160.73	7,350.82	6.61	-5.31	14,540,790.77	2,036,501.28	40° 1' 54.686 N	109° 35' 6.266 W
7,446.00	0.35	251.78	7,444.82	5.98	-5.40	14,540,790.14	2,036,501.21	40° 1' 54.679 N	109° 35' 6.267 W



**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (foot), NAD27, Zono 12N  
**Site:** NBU 921-18P PAD  
**Well:** NBU 921-18P  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-18P  
**TVD Reference:** GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)  
**MD Reference:** GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
7,541.00	0.35	242.64	7,539.82	5.75	-5.93	14,540,789.90	2,036,500.68	40° 1' 54.677 N	109° 35' 6.274 W
7,635.00	0.26	299.77	7,633.81	5.73	-6.37	14,540,789.87	2,036,500.24	40° 1' 54.677 N	109° 35' 6.280 W
7,730.00	0.18	179.89	7,728.81	5.68	-6.56	14,540,789.83	2,036,500.05	40° 1' 54.677 N	109° 35' 6.282 W
7,825.00	0.47	242.49	7,823.81	5.35	-6.90	14,540,789.49	2,036,499.71	40° 1' 54.673 N	109° 35' 6.287 W
7,919.00	0.09	206.26	7,917.81	5.11	-7.28	14,540,789.24	2,036,499.34	40° 1' 54.671 N	109° 35' 6.292 W
8,014.00	0.35	175.67	8,012.81	4.75	-7.29	14,540,788.88	2,036,499.34	40° 1' 54.667 N	109° 35' 6.292 W
8,109.00	0.53	203.80	8,107.81	4.06	-7.44	14,540,788.19	2,036,499.19	40° 1' 54.661 N	109° 35' 6.294 W
8,204.00	0.18	159.32	8,202.81	3.52	-7.57	14,540,787.65	2,036,499.08	40° 1' 54.655 N	109° 35' 6.295 W
8,299.00	0.35	185.43	8,297.81	3.09	-7.54	14,540,787.22	2,036,499.11	40° 1' 54.651 N	109° 35' 6.295 W
8,394.00	0.18	139.81	8,392.80	2.69	-7.47	14,540,786.82	2,036,499.18	40° 1' 54.647 N	109° 35' 6.294 W
8,489.00	0.53	134.54	8,487.80	2.27	-7.06	14,540,786.40	2,036,499.60	40° 1' 54.643 N	109° 35' 6.289 W
8,584.00	0.35	80.48	8,582.80	2.01	-6.46	14,540,786.15	2,036,500.20	40° 1' 54.640 N	109° 35' 6.281 W
8,679.00	0.26	97.54	8,677.80	2.03	-5.96	14,540,786.18	2,036,500.70	40° 1' 54.640 N	109° 35' 6.275 W
8,774.00	0.53	152.91	8,772.80	1.61	-5.55	14,540,785.77	2,036,501.12	40° 1' 54.636 N	109° 35' 6.269 W
8,869.00	0.53	136.56	8,867.79	0.90	-5.05	14,540,785.06	2,036,501.64	40° 1' 54.629 N	109° 35' 6.263 W
8,964.00	0.88	142.45	8,962.79	0.00	-4.30	14,540,784.18	2,036,502.40	40° 1' 54.620 N	109° 35' 6.253 W
9,059.00	1.23	160.47	9,057.77	-1.54	-3.52	14,540,782.65	2,036,503.21	40° 1' 54.605 N	109° 35' 6.243 W
9,153.00	1.23	154.75	9,151.75	-3.40	-2.75	14,540,780.80	2,036,504.01	40° 1' 54.587 N	109° 35' 6.233 W
9,248.00	0.79	178.66	9,246.73	-4.98	-2.30	14,540,779.23	2,036,504.48	40° 1' 54.571 N	109° 35' 6.228 W
9,343.00	0.09	151.59	9,341.73	-5.70	-2.25	14,540,778.51	2,036,504.54	40° 1' 54.564 N	109° 35' 6.227 W
9,438.00	0.09	96.48	9,436.73	-5.77	-2.14	14,540,778.44	2,036,504.65	40° 1' 54.563 N	109° 35' 6.225 W
9,533.00	0.53	164.07	9,531.73	-6.20	-1.94	14,540,778.01	2,036,504.85	40° 1' 54.559 N	109° 35' 6.223 W
9,628.00	0.44	65.89	9,626.73	-6.48	-1.49	14,540,777.75	2,036,505.31	40° 1' 54.556 N	109° 35' 6.217 W
9,723.00	0.53	50.95	9,721.72	-6.05	-0.81	14,540,778.18	2,036,505.98	40° 1' 54.561 N	109° 35' 6.208 W
9,817.00	0.44	7.27	9,815.72	-5.42	-0.43	14,540,778.82	2,036,506.35	40° 1' 54.567 N	109° 35' 6.204 W
9,913.00	0.18	163.89	9,911.72	-5.20	-0.34	14,540,779.04	2,036,506.44	40° 1' 54.569 N	109° 35' 6.202 W
10,008.00	0.70	145.88	10,006.72	-5.82	0.02	14,540,778.42	2,036,506.82	40° 1' 54.563 N	109° 35' 6.198 W
10,103.00	1.23	133.57	10,101.70	-7.01	1.09	14,540,777.26	2,036,507.90	40° 1' 54.551 N	109° 35' 6.184 W
10,198.00	1.14	129.00	10,196.68	-8.30	2.56	14,540,775.98	2,036,508.39	40° 1' 54.538 N	109° 35' 6.165 W
10,293.00	1.14	142.01	10,291.66	-9.64	3.88	14,540,774.67	2,036,510.73	40° 1' 54.525 N	109° 35' 6.148 W
10,387.00	1.32	142.54	10,385.64	-11.24	5.11	14,540,773.09	2,036,511.99	40° 1' 54.509 N	109° 35' 6.132 W
10,483.00	1.58	126.80	10,481.61	-12.91	6.84	14,540,771.45	2,036,513.75	40° 1' 54.493 N	109° 35' 6.110 W
10,578.00	1.74	119.54	10,576.57	-14.41	9.15	14,540,769.99	2,036,516.07	40° 1' 54.478 N	109° 35' 6.080 W
10,672.00	1.85	127.51	10,670.53	-16.03	11.59	14,540,768.40	2,036,518.54	40° 1' 54.462 N	109° 35' 6.049 W
10,768.00	1.49	136.30	10,766.48	-17.88	13.68	14,540,766.59	2,036,520.67	40° 1' 54.444 N	109° 35' 6.022 W
10,862.00	1.76	143.59	10,860.45	-19.93	15.39	14,540,764.57	2,036,522.40	40° 1' 54.423 N	109° 35' 6.000 W
10,957.00	1.76	155.37	10,955.40	-22.43	16.86	14,540,762.09	2,036,523.91	40° 1' 54.399 N	109° 35' 5.981 W
11,052.00	1.85	161.34	11,050.36	-25.20	17.96	14,540,759.33	2,036,525.05	40° 1' 54.371 N	109° 35' 5.967 W
11,146.00	2.02	157.21	11,144.30	-28.17	19.09	14,540,756.38	2,036,526.23	40° 1' 54.342 N	109° 35' 5.953 W
11,242.00	2.02	158.62	11,240.24	-31.30	20.36	14,540,753.27	2,036,527.55	40° 1' 54.311 N	109° 35' 5.936 W
11,336.00	1.93	163.63	11,334.19	-34.37	21.41	14,540,750.23	2,036,528.65	40° 1' 54.281 N	109° 35' 5.923 W
11,431.00	1.67	163.98	11,429.14	-37.23	22.24	14,540,747.37	2,036,529.53	40° 1' 54.252 N	109° 35' 5.912 W
11,488.00	1.93	169.61	11,486.11	-38.97	22.64	14,540,745.64	2,036,529.96	40° 1' 54.235 N	109° 35' 5.907 W
<b>LAST SDI MWD PRODUCTION SURVEY</b>									
11,547.00	1.93	169.61	11,545.08	-40.93	23.00	14,540,743.69	2,036,530.35	40° 1' 54.216 N	109° 35' 5.902 W

**SDI PROJECTION TO BIT**

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (foot), NAD27, Zono 12N  
**Site:** NBU 921-18P PAD  
**Well:** NBU 921-18P  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:**  
**TVD Reference:**  
**MD Reference:**  
**North Reference:**  
**Survey Calculation Method:**  
**Database:**

Well NBU 921-18P  
GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)  
GL 4862 & KB 19 @ 4881.00ft (PIONEER 54)  
True  
Minimum Curvature  
EDM 5000.1 Single User Db

**Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N-S (ft)	+E-W (ft)	
186.00	186.00	0.10	0.09	FIRST WFT MWD SURFACE SURVEY
2,775.00	2,774.78	-19.18	1.19	LAST WFT MWD SURFACE SURVEY
2,830.00	2,829.76	-20.74	0.58	FIRST SDI MWD PRODUCTION SURVEY
11,488.00	11,486.11	-38.97	22.64	LAST SDI MWD PRODUCTION SURVEY
11,547.00	11,545.08	-40.93	23.00	SDI PROJECTION TO BIT

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_